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REPORTS ON AVIATION SAFETY

HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

SECOND SESSION

ON

THE RECOMMENDATIONS OF THE AVIATION SAFETY COMMISSION AND THE CONCLUSIONS OF THE OFFICE OF TECHNOLOGY ASSESSMENT ON AVIATION SAFETY

APRIL 20, 1988

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REPORTS ON AVIATION SAFETY

WEDNESDAY, APRIL 20, 1988

U.S. SENATE,
SUBCOMMITTEE ON AVIATION,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The subcommittee met at 9:00 a.m. in room SR-253, Russell Senate Office Building, Hon. Wendell H. Ford (chairman of the subcommittee) presiding.

Staff members assigned to this hearing: Steve Palmer, senior professional staff member; Carol Carmody, staff counsel; and Patty Hahn, minority staff counsel.

OPENING STATEMENT OF SENATOR FORD

Senator FORD. Good morning, ladies and gentlemen. This morning we are going to talk about the recommendations of the Aviation Safety Commission and the conclusions of the Office of Technology Assessment on aviation safety.

The Commission was the brainchild of Senator Robert Byrd and was established by the Aviation Safety Commission Act of 1986 to review the organization and functions of the Federal Aviation Administration.

The Commission was to complete its study and publish its findings within 18 months of the passage of the legislation. The amount of $2 million was made available to the Commission for its work.

Indicative of the Chairman of the Commission, the recommendations came out on schedule, under budget, and in favor of an independent FAA. I could ask for nothing better than that.

I commend the Commission for its three accomplishments. I am especially pleased that the 18 months of studying the FAA structure and mission led the Commission members to the same conclusion that so many in the industry have reached, that the FAA must be an independent agency, with a fixed term administrator appointed by the President and confirmed by the Senate.

And let me add, as of this morning we have four additional U.S. Senators who share that view, and have cosponsored S. 1600.

The Commission has made other recommendations relating to air safety and regulations. I certainly agree that more safety inspectors are needed and that unannounced inspections of air carriers would be very useful.

I applaud enhanced safety requirements for commuters. The Commission has urged the use of Mode C, in terminal air space, just as this committee directed in its legislation.

I do have some questions about the Commission's recommendation for a "Safety Czar" and some concerns about the suggested Board of Governors. I look forward to the witnesses and their comments on that this morning.

The Office of Technology Assessment, at the request of the House Committee on Public Works and Transportation, conducted a study of FAA regulations, policies, and technologies, to see if they provided optimum safety for the aviation industry.

The OTA suggests a fixed term administrator and recommends personnel and procurement reforms. The study also addresses a number of long-term improvements which would be possible through technology.

With us this morning to discuss their work are the Chairman of the Aviation Safety Commission Jack Albertine, and Edith Page, Transportation Project Director of the Office of Technology Assessment.

We are also fortunate to have three former Administrators of the FAA with us this morning to comment on the recommendations and findings of these two distinguished organizations.

Finally, I want to thank all of the witnesses this morning, and particularly Mr. Albertine, because of the very short notice. I know all of you are busy, and it is your interest in aviation and your commitment to a safe system that I believe brings you here this morning.

I hope that, working together, we can produce some legislation that will strengthen the FAA and equip it to deal with the demands of the air carriers, the commuters, the general aviation population, and the flying public.

So with that little statement, let us begin. Other colleagues will be here shortly. They have other meetings, and we have not been able to clone a Senator yet: some wish we never will because one is enough.

Senator Kasten, do you have a statement you wish to make?

OPENING STATEMENT BY SENATOR KASTEN

Senator KASTEN. Thank you, Mr. Chairman. I look forward to today's hearing. The report of the Aviation Safety Commission, just issued two days ago, is a very thorough appraisal of the air transportation system. Many of the issues studied and recommendations made are matters which have been addressed and discussed in this committee before.

Specifically, and with regard to probably the major institutional change recommended, the Commission recommends an independent FAA, funded by user fees and independent of the appropriations process. With the problems of the FAA in procurement and personnel areas, some way of getting out from under the normal government process in these regards has to be found. However, though the report and some of the witnesses who have appeared before this committee on S. 1600 favor the total independence of the FAA, I am reminded of the remarks of NTSB Chairman Burnett that he has some problems with that approach because of safety concerns. I will be interested in the testimony of Mr. Albertine and Ms. Page on this point.

One particular area of interest that I have pursued in the past has been concerns about the inspection programs at the FAA. From problems with the numbers of inspectors, to the close relationships that inspectors and the industry apparently had at one point, this has been a very bothersome area to me. I was pleased to see very strong recommendations in this area, particularly the increase of surprise inspections.

Mr. Chairman, I congratulate you on setting this hearing in so timely a fashion, and look forward to the testimony of our witnesses.

Senator FORD. Thank you.

Senator Danforth, do you wish to make an opening statement?

OPENING STATEMENT BY SENATOR DANFORTH

Senator DANFORTH. Thank you, Mr. Chairman. I would like to express my appreciation to you for holding a hearing on these very significant reports. The Aviation Safety Commission was established pursuant to legislation reported out of the Commerce Committee in 1986 during my tenure as chairman. At that time I believed, as did Senator Byrd and the cosponsors of the Aviation Safety Commission Act, that it was time for a comprehensive review of the impact of airline deregulation on the safety of the industry.

I was pleased to see that the Commission's extensive investigation confirms what witnesses have been telling this committee for several years, that the aviation industry has a good safety record which has not deteriorated since deregulation. However, the Commission's report notes a number of areas in which improvements can be made, and I look forward to hearing Chairman Albertine's testimony concerning these recommendations. I also hope that he will illuminate a statement he made at the National Press Club on Monday, to the effect that the Federal Aviation Administrator faces an inherent conflict, in that he is responsible for operating the air traffic control system and also for setting safety standards for those operations. Transportation Secretary Burnley made the same point before this subcommittee a few weeks ago. I will be interested in hearing how the structural reorganization recommended by the Safety Commission will resolve this conflict.

I would also like to commend the staff of the Office of Technology Assessment for their review of changes in the airline industry since deregulation, and for their recommendations. The draft report reflects a considerable amount of effort, and we will pay close attention to the recommendations contained in the report.

Again, Mr. Chairman, thank you for this timely opportunity to review these two reports.

Senator FORD. The Chairman, Senator Hollings could not be here because of another commitment, but I have an opening statement from him that he would like to have included in the record.

[The statement follows:]

OPENING STATEMENT BY THE CHAIRMAN

Mr. Chairman, the state of our aviation industry continues to dominate the news. Again and again we see that the safety of air travel is being questioned:

The FAA and Department of Transportation have initiated unprecedented investigations into the safety and financial condition of Texas Air—our Nation's largest commercial airline.

A recent poll found that a majority of our commercial airline pilots—68 percent—say that it is less safe to fly now than before deregulation, while a mere 2 percent believe that it is safer.

Reports of near-misses and controller errors continue to indicate the threat posed by increasing traffic levels around our crowded hub airports—as well as testimony to our continuing luck that we have avoided a repeat of the tragic 1986 mid-air collision over southern California.

Clearly, we have a system that needs attention. Public confidence in our air transportation system is being stretched to the limit.

Because of inaction by the Administration on critical safety matters, last year Congress took the initiative in attempting to restore that confidence by mandating the hiring of 1,000 additional air traffic controllers in 1988, by requiring installation of airborne collision avoidance systems, by requiring increased use of cockpit voice recorders, and by increasing criminal and civil penalties on those carriers failing to meet FAA minimum safety standards.

With today's hearing, we are fortunate to have two groups that must certainly be regarded as experts in identifying the specific problems, as well as solutions. Both of these distinguished groups has spent the last year examining the safety activities of the FAA and the aviation industry, looking for changes that may be needed to improve air safety.

I am pleased with the outcome of the reports by the Aviation Safety Commission and the Office of Technology Assessment. As we will hear from each today, they bring forth a number of suggestions that are needed to ensure the continued safety of our air transportation system.

These reports will be the subject of an in-depth review during the coming months. This hearing will be the first of many, and I commend Senator Ford and the Aviation Subcommittee for acting in such an expeditious manner.

Senator FORD. We are delighted to have you with us this morning, Dr. Albertine. We look forward to your statement as it relates to your report, and thank you for being here this morning.

STATEMENT OF DR. JOHN M. ALBERTINE, CHAIRMAN, AVIATION SAFETY COMMISSION; ACCOMPANIED BY BETTY MADDOX, EXECUTIVE DIRECTOR; AND DR. CLINTON OSTER, RESEARCH DIRECTOR

Dr. ALBERTINE. Thank you, Mr. Chairman.

First let me say that I am deeply honored for you to have asked me to come here this morning and talk about our Commission's report and our recommendations.

Secondly, let me congratulate you for the work you have been doing over the years, your dedication to the issue of aviation safety. You are one of the leading experts, not only in the Congress, Mr. Chairman, but in the country with respect to this issue, and I think you are to be congratulated for your efforts in that regard.

Mr. Chairman, with your indulgence, I asked our two senior staff people to accompany me this morning. Having been a staff person on Capitol Hill many, many years ago, those of us who are on the Commission and me in particular have taken all the credit for the work, but the truth is the staff did all the work.

And I just want to take this opportunity to introduce Betty Maddox, who is sitting on my left, who is the Executive Director of the Commission staff and has done a wonderful job on the administrative job and holding us together; and Dr. Clint Oster on my right, who is a distinguished professor of public policy at the Center for Transportation at Indiana University and who did a wonderful job of pulling the research team together.

Mr. Chairman, I have a short statement I would like to read and a longer one for the record. And I would also like your indulgence to, if you would agree to include for the record two editorials which appeared in national periodicals over the last several days: one from the Wall Street Journal yesterday and one from the Washington Post today, both of which are largely supportive of the Commission's recommendations.

I think any time you get the Wall Street Journal and the Washington Post to agree with respect to public policy, either you are doing something very right or something very wrong. But in this case I think we are doing something very right.

Senator FORD. Doctor, your full statement will be included in the record and both editorials will be included in the record by reference.

Dr. ALBERTINE. Thank you, Mr. Chairman.

After months of meetings, study, and staff analysis, the President's Commission on Aviation Safety concludes that the nation's air transportation system is safe for now. However, that safety is being maintained to an increasing extent through delays and through what I can only characterize as heroic efforts of air traffic controllers, air facilities technicians, safety inspectors, and other FAA personnel.

If we are to maintain a safe system today and improve its safety in the future, charges will have to be made and they have to be made quickly.

There are serious problems, we believe, that need to be addressed now. Our report, Mr. Chairman, contains 15 recommendations, and I will discuss this morning the four most important of those from our point of view.

The President's Commission recommends increased and unannounced safety inspections, tighter regulations for commuter airlines, better equipment for private planes, and a brand new Federal aviation authority with an independent safety czar responsible for the public's air safety.

With respect to safety inspections, Mr. Chairman, the FAA currently relies on pre-announced scheduled inspections on each airline's operation and maintenance function by a handful of inspectors assigned to specialize in a particular airline.

From time to time, the FAA has conducted in-depth inspections, again pre-announced, where a team of as many as 30 inspectors examine the carrier's operations and maintenance in great detail for as much as a month of intense study.

We recommend that the FAA institute an expanded safety inspection program that includes more inspectors, a permanent program of national in-depth inspections, and surprise inspections as needed to keep day to day operations in conformance with safety regulations.

We also further recommend, Mr. Chairman, that the enlarged inspection program gives priority, perhaps in the form of special in-depth inspections, to examining air carriers undergoing major disruption or major change.

On commuter airlines, the industry is obviously the backbone of service to small communities, and it is our view that people traveling to and from small communities deserve the same level of pro-

tection as those Americans who are able to fly out of transportation facilities from larger cities.

Therefore, we are recommending that the FAA move toward uniformity of equipment and operating practice standards for scheduled passenger service, whether it be provided in large jet or small commuter aircraft.

Safety regulations should reduce and eventually eliminate differences in operating and aircraft standards, moving toward a standard of regulation for air transport category aircraft.

On general aviation, the public obviously is terribly, terribly concerned with respect to the issue of the relationship between general aviation and the potential for midair collisions.

While in our view the evidence is overwhelming that airline safety, airline travel remains safe, and the danger of midair collisions are small, it is true that over 1,000 near-midair collisions involved airlines between 1985 and 1987.

Seventy percent of those incidents involved a general aviation aircraft. Aircraft operated by airlines are all equipped with so-called Mode C transponders that report the altitude to the controller, and jet carriers and commuters are all in constant contact with the controllers.

Some general aviation aircraft, however, are not equipped with or do not use Mode C transponders, so that controllers cannot know their altitude for sure. It is as if controllers are forced to wear blinders.

The President's Commission has concluded that safety could be improved, while at the same time reducing air traffic controller workload during busy periods, if altitude information were available to a controller for all aircraft appearing on the controller's radar screen.

Therefore, our Commission has recommended that the FAA should designate around all large, medium, and small hubs buffer zones marked by clearly identifiable geographical and navigational landmarks and whose vertical boundaries begin at the ground and extend to the highest altitude used by aviation, in other words from the ground to Mars.

The area for the buffer zones must be at least as large as that covered on the radar scopes and terminal area radar control centers. Our goal is to let the controllers take off the blinders.

If the aircraft appears on the controller's screen, the controller should know the altitude of that aircraft immediately. Any aircraft that enters the buffer zone must have an operating Mode C transponder.

And finally, Mr. Chairman, we in all of these recommendations are united and unanimous. Our final set of recommendations are the most important as far as we are concerned with respect to the work we did over the last 10 months, and they involve the issue of the governmental structure required to try to keep this system safe into the future.

And there are certain views that I would like to talk about that we feel very strongly about and felt very strongly about as we did our work during the last 10 months.

Number one, we feel that economic deregulation has been of great benefit to our country. It has allowed people who could in the

past not afford to fly to be able to do so. It is, we believe, a good thing for the industry, and a good thing for the country.

We would oppose any effort to go back to economic re-regulation. But there is no question that, in an environment of deregulation, the governmental structures which are necessary to try to maintain safety in our view have to change.

The governmental agencies which were established to promote safety in the system were established during a period of economic regulation, and that environment has changed. The demand for services are growing. There is a tremendous amount of dynamism in the system.

And we believe that the current institutional arrangements established are just simply not up to the task from the point of view of maintaining safety into the future.

Let me say that we found throughout the industry—this involves people from maintenance people, flight attendants, pilots, industry executives, people throughout the structure of the FAA, the management of the FAA, the current FAA Administrator I think is doing an excellent job, the people at the highest levels of the Department of Transportation—I think Secretary Burnley is doing an excellent job.

Everyone in the system is dedicated to the principles of safety. We have some of the best people in our country in this industry.

The problem is not with the people. In our view, the problem is with the organizational structure. And we think the problems are becoming quite serious. The FAA is not being—is not in a position to be able to keep up technologically.

And if you talk to the FAA people, as this committee and this subcommittee obviously has, they will give you chapter and verse relative to the fact that they are behind on computers, communication links, high tech radar. And the reason is that the procurement rules of the Federal Government are entirely too cumbersome, and as a result state of the art technology is just not being put into place in the way it should in the FAA.

So we think that is a serious problem. There is no question that we think that the civil service rules as they govern personnel issues tie the hands of the Administrator in ways that over time could become a safety problem.

We have understaffing of controllers at congested airports around the country, where cost of living is very high, and we have perhaps an excess of controllers in some airports around the country where the cost of living is very low.

In business, if you have a distribution problem with respect to where you need people, it is very simple: You just simply provide economic incentives for people to move. Well, the Administrator of the FAA cannot do that because of the civil service rules.

We also think, Mr. Chairman, in candor that there is a built-in conflict that the Administrator has to face, which we think is not a healthy conflict from the point of view of good public policy. And that is, the Administrator is supposed to run the air traffic control system and he is also supposed to regulate it.

Now, there is no question whatsoever that the kind of people who have been Administrators of this agency have not allowed that

conflict to result in a degradation of safety in the system. But we think that is not a healthy way to architect a government agency.

So for these reasons, we believe it is necessary to remove the FAA from the Department of Transportation, to establish a new entity, a Federal aviation authority, which would be within the Government. And we can have constitutional lawyers argue about whether or not it is within the executive branch, but within the government, but with rules that the new independent agency would establish for itself as it relates to personnel policy and procurement policy.

And we think that is what is required if this agency is going to be able to maintain safety in the 1990's and into the 21st century.

Finally, Mr. Chairman, we feel that the public will demand in that kind of structure a public official appointed by the President, subject to Senate confirmation, who ultimately would be responsible for safety in that new agency, ultimately have the responsibility to disapprove rules that he or she thinks are not safe, or institute rulemaking procedures if there is an omission by the Administrator of the agency.

And that is why we have decided to recommend the establishment of a director of aviation safety. I want to make clear, however—in our conversation we had yesterday, Mr. Chairman, you and I discussed this. I want to make clear several points about how we envision this organization will run.

And this has not been—some of these points have not been made clear in the public reports relative to this Commission report. First, the Administrator will be, in our view should be, the chairman of the board of governors of this new authority.

The Administrator will also be the CEO, if you will, the chief executive officer, and perhaps the chief operating officer, of the organization. Our view is that the Administrator runs the agency on a day to day basis.

Secondly, the Administrator, while appointed for a fixed term, we believe should serve at the pleasure of the President. That is to say, if you have an Administrator that for some reason or another goes off the reservation as it relates to Administration policy, the President ought to have a right of removal.

Third, the so-called director of aviation safety will have no operating responsibility for running the agency, but will have oversight responsibility. And his or her signature will be required in rulemaking processes.

Now, we decided that, again, it is a good thing, it is prudent to have someone looking over the shoulder of the Administrator relative to the regulatory side of the house. We also felt that it would probably be a good idea to include both of those people in the same agency, so that they work together, so that there is coordination, so that the obvious overlap between the operating side and the regulatory side gets addressed in-house.

Secretary Burnley both publicly and privately has expressed the view that the regulatory side ought to stay in the Department of Transportation. I think that is not an unreasonable position. I think it is a reasonable position.

But we felt that our model was a little better than that model, because we, while at the same time wanting to make sure one

public official is accountable to the public on the safety side, we also wanted to make sure that there was a maximum—that the structure provided for a maximum opportunity for coordination between those two public officials.

We worry some about the notion that you can separate the regulatory side from the operating side in this agency.

And let me say finally that, with respect to the question of the potential for user domination of the agency, we discussed that at great length and tried to address it with our architecture.

Number one, in our view there ought to be a nine-member board of governors operating the agency. Five of those would be people from the public sector or people from the public as a whole: the Administrator, appointed by the President, subject to Senate confirmation; the director of aviation safety, the Secretary of Transportation, the Secretary of Defense, and a public member appointed by the President for a term of 4 years, subject to Senate confirmation.

We also felt—and again, this is an issue that you all face all the time as you architect new governmental agencies and procedures. We also felt that it is probably a very good idea from the point of view of an effective organization to have people on the board of governors who have some industry expertise, because after all, we believe that everyone in this industry is devoted to the principle of safety.

And so we argued that probably four people ought to be so-called "users"—consumers, industry people, people from the unions. We think that is a reasonable balance relative to this agency. We do not think that that architecture allows for the industry to dominate the organization and regulate itself.

And so for all these reasons, Mr. Chairman and members of the subcommittee, we think this is a good model, a good starting point. We understand obviously that this is probably not how it is going to wind up.

You know, I misspent my youth watching the Congress of the United States operate up close, and I am not naive with respect to the Congress and its prerogatives. We in the report recommend that this agency be user-funded, that it be totally out from under the appropriations process.

From the point of view of a civics textbook, from the point of view of good public policy, I happen to think that that is right. We need a consistency with respect to the budget.

But I am not naive about the practical difficulty of getting that achieved on Capitol Hill.

But in closing, Mr. Chairman, let me say we really do believe the system is safe, but it really does require change. The governmental structure which is now responsible for managing the safety of the system is antiquated. It needs to be restructured, it needs to be changed.

This subcommittee and you in particular, Mr. Chairman, have recognized that. We think now is the time to act. We do not think we should compromise the potential safety of the public by waiting until a new President and a new Congress is elected.

We think now is the time to act, and we would like to be helpful in any way, shape or form we can, Mr. Chairman.

Thank you.

Senator FORD. Dr. Albertine, you are very forceful and very articulate, and you present your case very well. I compliment you for that. I think you made a statement earlier that some of the nomenclature and structure of your report has not been fully explained in the press. In this hearing today, I hope the flesh can be put on the bones, so to speak.

We do have a vote at 9:30. I do not know how we want to work this out. Senator Exon has agreed to run on over and vote and come back, and then I can run over and come back so we wouldn't have to delay you.

Now, my ranking member, Senator Kassebaum, do you have a statement you would like to make this morning?

Senator KASSEBAUM. Thank you, Mr. Chairman.

I would only like to say that I know, Dr. Albertine, that you and the Commission have given a lot of time and effort and talent to this report. I believe it will be valuable for us and for the public because the issue is really a question of safety. The public today very much wants to be assured on that issue.

It seems to me that the majority of this committee and you and the Safety Commission all agree on an independent FAA. A large number of us are cosponsors of Senator Ford's Senate bill 1600, and I happen to think that that is one of the best approaches that there is. Many members of the aviation community as well have come together in the belief that this is the best way to go.

I certainly have some questions about the additional bureaucracy that the Safety Commission's approach may create, and I will be anxious to explore that with you this morning.

Thank you, Mr. Chairman.

Senator FORD. Thank you.

Senator McCain, do you have any statement you would like to make?

Senator MCCAIN. No thank you, Mr. Chairman.

Senator FORD. Doctor Albertine, you have stated very well, I think, that for both this subcommittee and your Commission the paramount concern is safety. If something is going to arrive at an airport, I want it to be me and my suitcase second.

The point I want to make is that the Safety Czar, or the Administrator for Safety, and the Administrator seem to be on the same level. If they become caught in a disagreement, then you have a group that they would appeal to—the Safety Committee. How are we going to have faith in the structure where you have two people with equal authority? One could veto the other. Then we are expecting the Secretary of Defense, Secretary of Transportation and others to give us a judgment. You would not run a company with two individuals with equal power.

Therein is the question. Is there any way we could structure the safety part of it where we would have an administrator that could be truly administrator. If he is off the reservation, then the President could rein him in. Otherwise you are going to have to rein one or the other or both when the confrontation develops.

Can you help me with that just a little bit this morning?

Dr. ALBERTINE. Yes, Mr. Chairman. This is obviously a terribly important issue. Senator Kassebaum, for whom I have the greatest respect, used the term "bureaucracy." I would obviously used a

little different nomenclature. The way I would discuss it would be, and argue for it, would be to say that, you know, one of the things that makes for safe air travel in terms of design of aircraft are redundancies, and there is no question whatsoever that this structure has a redundancy in it. The Safety Czar is a redundancy.

But we think it is a necessary redundancy for two reasons. Number one, again, from a public policy perspective, we were worried about the notion of the Administrator who runs the air traffic control system which we think is an operating issue—it is very much like you run any kind of organization, business or governmental—also being the person ultimately responsible for regulating the air traffic control system.

Now, we think that is not a healthy design. There ought to be someone who oversees the regulation of what the Administrator runs.

Second, from the point of view of the public, we think the public demands such a high level of safety in this area of transportation, much higher than in other areas of transportation, and we wonder why that is the case, but it is the case, that from the point of view of public perception, the fact that you have one person where the buck stops, that person only being responsible for one aspect of the agency; namely, the safety regulation, we think it would be healthy in terms of the public's perception of the fact that this agency which is, after all, in our model, pretty much outside of other kinds of governmental jurisdiction, for example, on the appropriations side with respect to rules and regulations at OMB, with respect to government procurement rules, that that is necessary in order for the public to have confidence that this agency is putting safety first.

Obviously it is going to be critical, as in any organization, that people count, and you have to have a situation where both people who are appointed are people who are capable of working within this kind of structure, which includes a redundancy.

And let me say one final point. We think it is possible from an organizational point of view to separate what are clearly regulatory issues from what are clearly operational issues, and that in an organizational structure, that can be rather clear.

Senator FORD. Do you not put the safety administrator in the posture of being negative, period, rather than being positive. There is always something between the lines, there may be a reason for it, and I need to understand the reason. As I understood it, he would have the power to override.

Dr. ALBERTINE. Right.

Senator FORD. Now, I did not see where he would have the power to initiate. Perhaps I have missed that point. But he has the power to override and maybe call safety problems to the attention of the administrator.

Am I correct that you only give the Safety Czar the ability to cancel regulations, or other proposals?

Dr. ALBERTINE. No, Mr. Chairman. The model would give him two authorities. One is to disapprove a regulation which has gone through the normal rulemaking process, and the other is to initiate a rulemaking if he or she believes that the Administrator has been negligent with respect to some aspect of safety.

Let me say again, Mr. Chairman, the model is designed in such a way so as to try to have our cake and eat it, too. We are trying to provide this second test on the regulatory side, at the same time, make for an efficient and effective operation of the system, and that is why we explicitly suggest in the report that the so-called Director of Aviation Safety, the Safey Czar, is explicitly included in the rulemaking process when it starts.

It is up to the Administrator in general terms to initiate rules, as it is under the present structure. The model is, and the way it would work from an ideal point of view is that the Administrator would have to obviously sit down with the Director of Aviation Safety and say here is what I want to do; what do you think?

And we think it is not a bad idea to have a second pair of eyes take a look at that issue and say well, you know, our view is yes, no, we think it ought to be structured in such a way to maximize safety. We think that is healthy because the regulatory side of this is so critical in terms of the confidence the public has in aviation safety.

Senator FORD. You may answer just yes or no to this:

Would the five member Safety Committee meet only to handle appeals?

Dr. ALBERTINE. Yes, sir.

Senator FORD. That would be the only time?

Dr. ALBERTINE. Yes, sir. And the reason we did that, Senator, is—and again, you and I had a little discussion yesterday on this point—again, I do not think the press accounts of the report, while we found them flattering and favorable, really did not make the point that I would like to make this morning, and that is our intention is that the administrator is the key person in this agency, and that the administrator will run the agency, and that the—you know, we would expect that appeals to that safety committee would be few and far between, and frankly, if you had an awful lot of appeals going on, obviously at that point the Secretary of Transportation ought to talk to the President about removing one or both of the people involved, in our view.

Senator FORD. Our paramount concern here is safety. If you give the Czar the safety responsibility, that gives him more power possibly than the administrator whom you referred to a moment ago as the CEO.

Dr. ALBERTINE. That is exactly right, Mr. Chairman, and that is the point I want to make, and that is that the public demands an enormously high level of safety in this area, and the second thing that is terribly important, I believe, from the point of view of good public policy, there is enormous skepticism, as you know, with respect to the question of the relationship between industry and the regulators and not just this case, but in all regulated industries, and that skepticism probably is a healthy thing.

But what we would like to do in this model is make it so crystal clear that there is one person where the buck stops relative to safety, and that that person has no other agenda, no other incentive, doesn't have to worry about any other question, that it would be very difficult for people to be critical of the notion that this is an organization being run by the industry, that the industry is regulating itself.

Senator FORD. Let's move on to a couple of other things, and I do not want to take too much time. We may go around and then I will come back, Jack.

Under the Commission's proposal, the Board of Governors would set the user fee levels as well as the annual budget.

Dr. ALBERTINE. Yes, sir.

Senator FORD. It appears that you circumvented Congress in more than just a little oversight.

Can you explain that? That is going to be awfully hard to fly here. That is going to be a crippled craft as it tries to get through here, I am afraid, and you know this place, as you said earlier, pretty well.

Dr. ALBERTINE. Mr. Chairman, one of the things I did not say in the beginning, and I meant to, and that is that we consulted far and wide in writing this report. We talked to experts in safety, we talked to people in the industry, we talked to people in all aspects of the system, we talked to people in the trenches at FAA, and we talked to your able staff and Senator Kassebaum's able staff and others on the Hill's able staffs and got a great deal of good input in that regard.

I had a meeting with the Chief of Staff of the White House about two weeks before this report came out, and he said to me, Jack, sometimes you have just got to write a report, and I took that to mean that he was saying we ought to try to do what is right.

Now, from the point of view of what is right, Mr. Chairman, from the point of view, again, of good public policy, we think a user funded system where fees were established on the basis of the business economics of the system as well as the need for maximizing safety, is the way to go.

One of the real problems that the FAA does have is this difficulty with respect to its budget, budget by continuing resolution, budget uncertainty and all the rest, and we really do believe that that is the way that the system ought to operate.

Secondly, there is a unique convergence of interest here between the consumer and the industry as it relates to fees. One thing that, you know—we make underwear, as you know, Mr. Chairman.

Senator FORD. Do you want to check mine. I am in good order this morning.

Dr. ALBERTINE. We hope that everybody is wearing their Fruit of the Looms. We are going to have an inspection out here. And you know, one thing about pricing, you know, you are reluctant to raise prices always. It is a very tough decision to raise prices in a company. You worry about what economists call the elasticity of the demand function and where you are going to gain revenue and where you are going to lose it.

But one thing about raising prices in a private company is you are getting the revenue.

Now, in this case you have got a situation where industry people will have to vote for price increases, and they are not going to get the revenue. So they are going to be rather reluctant to do it unless it is necessary.

And so in my judgment, you really have the industry and the consumer on the same side. At the same time, both the industry and the consumer need an effective, efficacious system.

So we think, frankly, from the point of view of an efficient operation of the system, user funded, out from under the appropriations process is a good idea.

Now, from a practical point of view, I used to—I also misspent my life lobbying Capitol Hill, and I would say this would probably be a tough one to lobby.

I would not want my bonus to be based upon whether or not I could get this one through, frankly. But I think it is the right thing to do.

Senator FORD. Well, hope springs eternal.

Senator DANFORTH. Mr. Chairman, would you yield just for a minute?

Senator FORD. Yes.

Senator DANFORTH. I regret to say that there is a vote on the floor now, and then there is a markup in the Finance Committee that I am going to have to attend. This is obviously a very important subject, and I wonder if I could submit written questions to one of the witnesses?

Senator FORD. No question about that. You can do that any time. We would be glad to—and I am sure that Mr. Albertine and others will be glad to respond in a timely manner.

I wish you could stay around. The Finance Committee sounds bad unless you are cutting our taxes. That is just what you just talked about.

Your report is silent on the trust fund.

What do you propose to do with the surplus that is there?

Dr. ALBERTINE. We would hope it would be used in the transition, frankly. We would hope it would be spent for purposes that it was intended for. That is an issue and one reason why we would like to go to a system that is totally user funded, so that we do not get into this kind of argument. That is exactly the—I mean, if you are going to argue the other side, I know it is tough from the point of view of congressional prerogatives, but the other side of it is that what happens is you get a situation where funds are needed for purposes that relate to things like reducing the deficit, which are terribly important, for which they were not intended.

So I guess what we would argue would be we would hope the fund would be spent in transition to the new system.

Senator FORD. Jack, we have this tax that is authorized through 1991.

Did you all address that in the Commission as it related to the airline tax?

Dr. ALBERTINE. No, Mr. Chairman. We assumed that, again, on the point of view of the trust fund, on the point of view of the fee structure, we would expect that there would be a transition period of several years.

Senator FORD. I have several other questions.

John, do you want to start and see how we can work out here?

Senator MCCAIN. Mr. Chairman, I know we have to go over and vote, and I will be very brief.

I thank you, Mr. Albertine. I have a lot of questions. I want to thank you for a very important and I think very valuable report. I think you are going to find that the witnesses that follow you do not agree with the so-called Safety Czar idea. There is a lot of expe-

rience represented in the next panel, and I think their opinions will have a lot of influence, understandably, on the decisions that we make.

There are other organizations for which safety is paramount, military squadrons, nuclear power, others, and I know of no organization that has a management structure such as you recommend. In fact, I think it is a built-in conflict and one which could lead to a lot of airing of dirty laundry. You referred several times to your experience in this town. I can see those two organizations competing for leverage with the press and on Capitol Hill, and I think if you are going to make somebody responsible, you have got to make one person responsible.

The person who is in charge of the organization also has to be ultimately in charge of safety. If he is not, then I think most of his other activities are almost irrelevant. I think you are going to find that the other panel members who follow you will agree with that.

It might have been wise for your commission to look at other models of how they have successfully implemented safety programs, for example, the nuclear power program of the United States Navy, where there has not been one single nuclear accident since the fifties. None of those successful safety records, in my view, are attributable to competing bureaucracies.

Having said that, I am very impressed by a lot of the other conclusions that you have arrived at, particularly some of the nonrecommendations but important areas for consideration concerning slots, for example. I think that is a very important aspect of this whole business. I also think that the point you addressed concerning the declining qualifications of pilots is very valuable. Overall, I think that this proposal would have a significant influence on the legislation that Chairman Ford has recommended.

So that I can keep up my voting record, I will depart, but again, I want to thank you for the very valuable, insightful and I think very important document you have given us. I think it is going to take us a long way toward resolving some of the problems that beset not only the industry but the confidence of the American people in aviation safety.

I would be glad to listen to your response.

Dr. ALBERTINE. Yes, thank you, Senator.

I happen to think that that one proposal that we did not endorse because there may be, frankly, better ways to do it with respect to congestion user fee I think would be very good relative to the issue of trying to provide incentives on the other side for local and state governments to allow for expansion of airport facilities.

On the question of the Director of Aviation Safety, obviously I think you have articulated very well the potential problems. Let me just give you a little flavor of why we decided to go in that direction, and partly it has to do with the fact that in the Defense Department there is a Secretary of Defense who is a Cabinet level responsible person who is very visible and who is accountable clearly to the President and to the public.

To the extent to which we remove the Secretary of Transportation from direct responsibility for safety, we felt that you had to install some other mechanism of accountability, and I do think that is an important question. I know the Secretary of Defense has

said that. The "Washington Post" editorial today makes that point, too, that perhaps you do need a cabinet level person.

I think if we were just to move the FAA out and not have some other structure, then I think we would be subject to the obvious other charge that you are now really degrading to some extent accountability with respect to the safety issue.

But you have articulated the other side.

Senator McCAIN. Thank you.

Senator EXON [presiding]. Thank you very much, Senator.

Let me ask Dr. Albertine, what would be your view of a definition of hub airports that would keep out all planes except those with transponders?

This is a major concern to general aviation, as you know full well. We are wrestling with it in Nebraska at the present time.

Is Lincoln a hub airport or is it not? It does not have anywhere the density of traffic as in O'Hare or even in Omaha.

Do you have any recommendations or thoughts on how we can make accommodation for that problem? What is your definition of a hub airport other than the present definitions that we have had established by the rules?

Dr. ALBERTINE. I think the import of what we are suggesting, Senator, would be to expand the concept of a hub airport relative to this issue very dramatically.

I must tell you that I spent Sunday evening having dinner with my physician, who flies an airplane. He spent the whole evening telling me what a bad recommendation this was.

I understand the issue with respect to general aviation aircraft. We felt there was a considerable amount of support within the Commission, zzzfrankly, Senator, to just simply require all aircraft to have Mode C transponders, period. From the point of view of simplicity, that is the way to go, but we felt, I felt personally, that where they are not needed we ought not to force them on the general aviation community. I think it is a bad idea for a government to overregulate because what it does is undermines the whole regulatory structure.

Clearly, if you are flying a crop duster in Nebraska, you do not need a Mode C transponder.

The other side of it is that from the point of view of the people—and I want to say that I have spent about half of my life in airplanes flying, and about half of the time I am flying I fly in a general aviation aircraft. So I am not biased against general aviation.

Quite to the contrary. I think the general aviation is critical, frankly, very important to this economy. I believe that when you are flying in a situation where you are appearing on controllers' radar screens, it is just a prudent thing for the controller to be able to tell the altitude both from the point of view of safety and also from the point of view of the workload of the controller.

Now, let me ask my brilliant research director and put him on the spot. Would Lincoln be a hub airport under this definition?

Dr. OSTER. I believe it would be.

Senator EXON. What was the answer?

Dr. ALBERTINE. Yes.

Senator EXON. So you really think that Lincoln, Nebraska is an airport that we should treat as a hub? I do not agree with that. I

have been arguing with the FAA about that now. Their proposed rules were so strict pretty much along the lines of the Commission on where you said there was considerable feeling that all aircraft should have transponders, period.

Let us follow that up just a little bit more. Would those people on the Commission who want all aircraft to have a transponder whether or not it entered a hub airport grandfather the requirement for planes that are used now but do not have transponders?

Would you grandfather those transponders, or would you mandate that all new aircraft, regardless of the number of engines, just if they are an aircraft and if they fly, would have to have a transponder?

Does that also include helicopters?

You know, this is a very, very big problem. I think all of us would agree that it would be much better for everyone if anything that flies has a transponder in it. The facts of the matter are they do not.

I am not being familiar with all of the technologies of aircraft, but I understand there are some aircraft today which just could not have a transponder for obvious reasons. They are not cheap.

When people talk about having all aircraft required with a transponder, are they talking grandfathering? Are they talking about having this totally in effect in some year in the future? How do they address the details that I think would be an important part of any regulation that would ever be considered or adopted in this area?

Dr. ALBERTINE. When we discuss these kinds of issues, Senator, it was within the context of saying that obviously you have got to be the FAA, the Federal Aviation Authority. This new organization has to be reasonable with respect to regulation.

While we did not specify a specific transition period, it would be my view, and I think it is shared by the majority or unanimously on the Commission that obviously you would have to have a transition period.

Now, how long a transition period? As you know, it is terribly important, and when you get into the fine details of an issue——

Senator EXON. Then you get into problems, do you not? It is a great idea, but it will not work.

Dr. ALBERTINE. That is right. There are a lot of bad things about serving as chairman of a presidential commission, one of which is you do not get paid.

One of the good things about it is sometimes you can avoid those kinds of details and argue that we are talking about structure——

Senator EXON. Let somebody else take care of it.

Dr. ALBERTINE [continuing]. And we want to set up the management system and allow the new agency to do the details. But there is no doubt about it. In principle, you would obviously want a significantly long enough transition period so that it could be done on a reasonably cost effective basis.

Senator EXON. This may be outside your report, and I have not read it so I do not know whether it is included or not. You know that this Senator and this subcommittee have been very much concerned about what we feel has been—let me choose my words carefully here—not full implementation of safety checks, rules and reg-

ulations with regard to inspections of maintenance and those kinds of things.

We just have a general feeling without positive proof that there has been too many instances of overlooking some of the maintenance procedures that were in place before deregulation.

Did the Commission discuss this at any great length? Do you, from your experience, share the general concern of the Aviation Subcommittee that we do not have full maintenance and inspection as we did before deregulation, or do you think that is a myth?

Dr. ALBERTINE. Senator, we say very forcefully in the report that we need more inspectors, we need more inspections, we need more in-depth inspections, we need more tough inspections, we need more surprise inspections. We argue that the surveillance and certification functions should be separated and both should be enhanced so there is no question in our mind.

It was unanimous that there is no question that we need to beef up the inspector force and the inspection system in the FAA.

You are absolutely right, Senator. It does relate to deregulation, in that deregulation has increased the volume of traffic, increased the demand in the system and, therefore, you need to beef up the inspection side to keep up with it. You are absolutely right.

Senator EXON. Do you have any views with the mounting controversy that Texas Air and Eastern at the present time are being unfairly picked on by the FAA?

Dr. ALBERTINE. No, Senator. Let me just say that with respect to that specific case, we would wait for the investigation. The Secretary says it is going to take 30 days, and we are all going to be able to evaluate it then.

I would hope, personally, that the investigations will find that there are really not any significant problems in those airlines.

Let me say this, though. I think that that situation does indicate the need for the recommendations which I just articulated; that is, we need to have an ongoing basis more inspectors, tougher inspections, more surprise inspections, more in-depth inspections so that you do not have a situation where problems mount up and then there is this huge public concern related to an individual airline.

We would like to see these problems addressed on a daily basis resolved, so the public has a sense that the system is safe.

Senator EXON Are there any "surprise" inspections carried on today?

Dr. ALBERTINE. There have been some, Senator. My understanding of this is that the last time the FAA did it was in 1984, but they have from time to time done surprise inspections.

What we are saying is it ought to be a matter of ongoing operations. You know, we at Farley Industries have seven operating companies, 70 facilities around the country. When you go to those facilities and announce you are coming, you get one reception. When you go to the facilities unannounced, you might get another reception.

It is a healthy thing, it seems to me, for that to occur on an ongoing basis within the FAA.

Senator EXON. I think we are right back to the matter of returns. If everyone knows that they could be in here at 4:00 this afternoon although we do not expect them until two weeks from Thursday,

that deterrent factor alone would probably assure the public that at least there would be further improvement in maintenance procedures. Do you agree?

Dr. ALBERTINE. Yes, sir.

Senator EXON. I do not think many of us had thought of the proposition, but there are claims today that there is harassment of certain airlines by the unions with regard to the fact that the unions are trying to take over the airlines. I do not know whether that is true or not. I suppose you do not, either, and probably do not want to comment on it.

I just would say that I cannot think of any way offhand how you could ever stop someone for having an ulterior motive with regard to suggesting that airline X or airline A, B or C are not doing an inspection.

I guess fundamentally we just have to rely on the fairness of the system and the fairness and intellect of the people who are doing the inspections not to indulge in unnecessary inspections that may be induced by harassment. I guess that is always a possibility.

Do you have any thoughts on that?

Dr. ALBERTINE. Senator, I have a couple.

One, I think you are absolutely right. The critical issue there is you have to rely upon the inspector force to be able to sort out real issues from issues which are motivated by other considerations.

I may get into trouble for saying this, but I feel somewhat very strongly about it. I spent a good deal of my time in the last 10 months talking to people who work in the industry. I rode around in the jump seat of the cockpit, as I am sure you all have, and listened to pilots discuss safety issues, generally the business climate, the work environment, that sort of thing.

I think to some extent it is understandable. We have gone through a period of wrenching change in the industry from a regulated to a deregulated environment. Obviously, that is a very difficult thing to do from the point of view of the management of the industry.

Again, this is from casual observation and not from any kind of surveys or such, but I know it is right. I mean, if I were an executive of an airline, I know it is right, and that is that. The labor-management relations in that industry are not, in my judgment, where they should be. It is something that we at Farley Industries take very seriously.

You know, a business is only as good as the people and in the manufacturing business as the people on the factory floor who are making the product. Now, if they are with you, if you have a team and they believe they are on the team, you cannot be stopped.

On the other hand, if you have not paid attention to them, if you do not listen to them, if you do not ask their advice, if you do not treat them with dignity and respect, what happens is they are not with you. If they are not, they will kill you both from the point of view of productivity and from the point of view of quality.

So I would just offer unsolicited advice. Again, this is not meant to be critical because I think there are many people in the industry on the management side who work very hard and are dedicated to the proposition that business is a team and it is either pulling together or it is not.

In my judgment, I think if I were to give some advice unsolicited to the industry, it would be to really work very hard at that issue of the relationships between the management and the people who work in the industry, because the impression I have is that those relationships are not as good as they ought to be.

By the way, within the FAA we were asked to look at this question of labor-management relations. I have gotten to know the current administrator some. I am very impressed with his background, his experience and his dedication to this issue. He comes from a very fine firm that has an extremely enlightened management team relative to this issue.

The problem he has is he has not been there very long, and that goes to the question you all have addressed, which is this question of some tenure for the Administrator. I do not see how in the world you can develop a team spirit when you have an Administrator leaving every 18 months.

So I think that is a critical issue that needs to be addressed. I would like to see Alan McArtor there for another five or seven years; but the problem is he does not have a fixed term.

There is a second problem, and this may be hard to understand from the point of view of average working Americans, but the kind of people that you want to put into place to run the FAA are the kind of people who can command compensation far in excess of what the Federal Government is allowed to pay.

So people have to be involved in huge financial sacrifices as it relates to their own families. So I think that is another issue that we in our report believe we are addressing. We need to get this out from under those rules so that you can pay competitive, at least quasi-competitive, wages to the people in the top management of the FAA and put people there who are good people who are going to work at it for a long period of time.

There is no question in my mind that that will improve the efficiency of the organization, but I think it will also enhance safety.

Senator EXON. I guess that you are suggesting that while some airlines are much better than others with regard to people skills and the development of people skills, that is an area of improvement that the whole airline industry should look at?

Dr. ALBERTINE. At Farley Industries, Senator, we have an acquisition pool at the moment of $300 million which we raised through high yield bonds. When you do that, you have what is called in the industry a negative spread, which means you have to make an acquisition.

We are not going to make an acquisition in the airline industry, but if we did in my mind one of the most important issues would be we would be thinking a lot about the question of how do you improve those relationships? The industry, in my judgment, as a whole runs the risk of not making any money, among other things, until those relationships are improved. I think they need to be worked on.

Senator EXON. Thank you, Mr. Albertine.

Thank you, Mr. Chairman.

Senator FORD [presiding]. Senator Kassebaum.

Senator KASSEBAUM. Thank you, Mr. Chairman.

I would like to go back to the safety czar for a minute.

Dr. ALBERTINE. I figured you might, Senator.

Senator KASSEBAUM. And the appeals board. Maybe this has already been asked, and I apologize for us going in and out.

What would be the relationship between the appeals board and the work of the NTSB?

Dr. ALBERTINE. That is a very good question, Senator. It is very perceptive and insightful, as I would have expected.

Senator, we looked at that question. We debated whether or not we might put that function in the National Transportation Safety Board. We also debated the issue of putting the Chairman of that organization on this regulatory safety committee.

In the end, we rejected both notions for the following reasons: We think the National Transportation Safety Board is a terrific agency doing a good job related to a specific set of functions, investigating accidents; therefore, obviously, it has responsibilities that go way beyond aviation. We felt that trying to give it functional responsibility in terms of rulemaking would muddy its mandate and maybe reduce its focus on the issue of investigations.

Moreover, when Chairman Burnett testified, we asked him whether or not he would like the idea of the Board having some authority to set rules, and he said no.

I think it plays a tremendous role as an ankle biter, frankly, as an organization which does not have a function in rulemaking and, therefore, can be quite articulate with respect to just safety issues. It is, as I said before, Senator, another redundancy really, but when it comes to safety the reason why the system is so safe is designed, for example—there are so many redundancies.

Senator KASSEBAUM. Dr. Albertine, does the appeal group, is that the correct term to call it?

Dr. ALBERTINE. Regulatory Safety Committee I think we called it.

Senator KASSEBAUM. Would the Committee have rulemaking authority?

Dr. ALBERTINE. Yes. In the case of a dispute between the Administrator and the Director of Aviation Safety, the answer is yes. There is an appeal, and the appeals board decides whether the rule goes into effect or does not go into effect. So, therefore, in that sense it has rulemaking authority.

Senator KASSEBAUM. All right. So you are saying that the administrator of the FAA would propose a rule, and that proposal could be appealed?

Dr. ALBERTINE. Let me give you an example, Senator, a concrete example. Obviously the Administrator is going to be concerned about safety. Obviously the Administrator is going to be a very visible person. Obviously anybody who is the chairman of the board of this organization and the Administrator, the CEO, is not going to want planes to fall out of the sky for purposes of morality as well as for purposes of personal reputation.

So we would expect that the Administrator would, in fact, be concerned about safety first. But let us suppose an Administrator decided, for example, that on balance, as you weigh the balance between safety and efficiency and there tends to be tradeoffs, that the separation standards ought to be changed, that they perhaps should be narrow.

By the way, I have talked to people within the FAA who say that that could easily safely be done. It is not a silly proposition from, say, 5 miles to 3 miles or some number.

The Administrator would propose a rulemaking on that issue with, as it is now done, full notice of public hearings and all the rest. The Director of Aviation Safety would participate in that process, would make comments about it. The way we would hope it would work ideally would be those two people would be working in tandem; that before the official rulemaking notice went out, the Administrator would sit down over lunch with the Director of Aviation Safety and say, what do you think if we were to do the following? Let me tell you why I want to do it. Let me tell you the impact it is going to have on the operation of the system. Let me tell you why I think it is safe.

The Director of Aviation Safety sits across, having lunch, and says I think you are right, I think that can be done safely. He makes that comment, the process goes forward, you know, very much like it is at the moment from the public perception point of view.

However, we think that extra set of eyes is a good thing. Now the public is assured that that rule has been looked at by someone who is only concerned about safety and not concerned about the question of the efficient operation of the system.

Let us suppose over lunch it is clear that the Director of Aviation Safety is going to be unalterably opposed to the change in the standard, simply disagrees; it is just not going to be safe. I understand your problems, but that is tough, it is just not safe.

The process goes forward. The Director of Aviation Safety having indicated that he or she does not like the rule, at the end of the process the Director of Aviation Safety says I disapprove.

Now, the Administrator has a choice. The Administrator can say, fine, OK, we are not going to do it, you win; or the Administrator can go to the Regulatory Safety Committee and say let me tell you what is going on. We need to reduce this separation standard. We need to change it. We think it is safe, and here is our reasoning, here is the data, here is our analysis.

The Director of Aviation Safety gets his or her day in court as well. The Regulatory Safety Committee, composed of those two people plus the Secretary of Transportation and the Secretary of Defense, both of whom are clearly visible and accountable, a public member which we would envision being a full-time public member incidentally, those five people would make that final determination.

Yes, the Administrator is right; the rule goes into effect. No, the Administrator is not right; the rules does not go into effect.

Senator KASSEBAUM. So they more or less pass judgment on the proposed rule?

Dr. ALBERTINE. Yes, Senator.

Senator KASSEBAUM. Let me move on just briefly into the general aviation area and the issue of Mode C transponders. I think Senator Exon already asked some questions about this, but I am curious.

Your report mentions the buffer zone. Does that term refer to an area at least as large as that covered on the radar scopes in the terminal area radar control centers?

Dr. ALBERTINE. Yes, Senator.

Senator KASSEBAUM. Is there any clear definition of what a buffer zone would be?

This is by far a broader definition than the FAA used in their proposed rulemaking regarding Mode C transponders, is it not?

Dr. ALBERTINE. Yes, Senator, it is. It is our view that it is.

We debated that issue. Frankly, there was an awful lot of support within the Commission coming from sources that might be surprising, indeed, for us to recommend that the Mode C transponders be made mandatory for all aircraft. We decided not to do that because, as I was indicating to Senator Exon, we thought that that was overregulation and did not make sense.

Crop dusters in Kansas do not need Mode C transponders. We, however, feel that from the point of view of this issue, it is better to be safe than sorry.

And again, as I was saying to Senator Exon, I happen to travel a great deal in general aviation aircraft. I happen to think that the general aviation community is a terribly, terribly important part of the system.

I frankly think that general aviation is a critical part of this economy. As I say, I spent about half of my time flying in those planes.

But I would rather be in the position where we perhaps went a little too far than not far enough relative to that issue.

Senator KASSEBAUM. Thank you.

Senator FORD. Jack, I know you want to go catch a plane. I do not know whether it is general or commercial.

Dr. ALBERTINE. This is a commercial aircraft.

Senator FORD. Well, they are on time now, or relatively on time.

I have two quick questions I would like to ask you: One, did the Safety Commission address the FAA regional structure?

Dr. ALBERTINE. Yes, sir. We call for in this report certification on a national basis. For example, we think it is time for certification of aircraft operating procedures and the like to be done in one office, standardized across the country.

I asked—I should not do this, but I am going to do it anyway. I asked Admiral Engen privately about that.

Senator FORD. Now it is public.

Dr. ALBERTINE. He gave me comfort that our recommendation was not an unreasonable or not sensible recommendation. That is not saying he would support it, but I think that is a good idea.

Senator FORD. And finally then, in your opinion, is the DOT investigation of Eastern and Continental the type of activity the Safety Commission is encouraging?

Dr. ALBERTINE. Let me say on that, Senator, that I would not comment on the specifics, obviously. We have got 30 days. The Secretary says the report will come back. We will all have a chance to take a look at it.

What I think that situation demonstrates, as I indicated earlier, is the need for many of the recommendations in this report. We call for more inspectors, tougher inspections, more in-depth inspec-

tions, surprise inspections, the separation of the surveillance function from the certification function, and enhancement of both.

If we were to do that, in my view and in our view in the Commission, I think on a daily basis we are more likely to be able to solve problems that come up, so that you do not have a sort of highly public crisis atmosphere, in which the public is concerned about an individual air carrier.

Senator FORD. Well, I am impressed with the pace of some of the mergers as they are trying to put things together to be sure that the merger works, that everybody uses the same manual, that the flight attendants are operating on the same rules and procedures.

I was impressed with the Delta merger with Western. You did not even know it happened. It was very smooth, and from what information I am receiving now U.S. Air is doing the same thing with Piedmont.

That indicates the industry is doing very well generally. That is one of the reasons I asked about this.

Senator KASSEBAUM. There are not many mergers left.

Senator FORD. Well, I understand that. But who knows what is going to happen in this world of ours?

Dr. ALBERTINE. Well, Mr. Chairman, I was asked that question at the press club the other day, and let me say this. With respect to the issue generally of mergers, this is another topic and another speech, but I happen to think that the merger and acquisition activity that has gone on in this economy is extremely healthy.

I think it has revitalized American manufacturing. I think it imposes a discipline of the marketplace on corporate management, and I think it is very, very good.

Obviously, there is an issue that relates to the fact that when—and we have both bought and sold companies, and I would say that at Farley Industries we are operating people; we buy companies to operate them.

And when you do acquire a new company, there is no question that there are—that that can be a traumatic event, that there are operating issues that you have to resolve. There is a period of transition.

And so that I think it is prudent for the FAA, and we say this in the report, too, to intensely look at the safety issue during the transition period when mergers are occurring, not because there is anything wrong with the merger, but because that is a naturally unsettling event on an organization and you want to make sure that it does not have any negative impact on safety.

Senator FORD. Thank you. You have shown a great deal of insight and knowledge of the area in which you all have worked for the last 10 months.

I think it is a compliment to you and your Commission that you have done it so thoroughly and that you can sit here and answer the questions without referring to notes. It is somewhat comforting that those in the private arena will come to government and give us an opportunity to try to work things out, and I thank you for that.

I would like to move as quickly as possible now with your report to see if we cannot fashion S. 1600 that will be agreeable to 51 votes, if we can put it on that basis.

Senator KASSEBAUM. Mr. Chairman, I would just like to second your comments regarding the testimony of Dr. Albertine and the Commission's work. It certainly has provided food for thought, and I think it has been an extraordinary report on the part of the Commission.

Senator FORD. Thank you very much, Senator.

And thank you Dr. Albertine, and I thank the two people that joined you this morning for their work. And I agree with you that we take the good and the bad, and mostly the good, and let the bad go to the staff, and the staff has done an awful good job for you here.

Dr. ALBERTINE. They have certainly done the work. We have taken the credit. I have taken the credit. They have done the work.

And with respect to the issue of my knowledge of the subject matter, if I have any, it is because I have had two wonderful teachers to guide me in the process.

Senator FORD. Well, good. We will just send them the questions and let them answer them, Jack.

Dr. ALBERTINE. We have got to make underwear, Senator. We have got to keep those 13,000 people in Kentucky employed.

Senator FORD. We are working on 15,000. Is that all right?

Thank you very much.

[The statement follows:]

STATEMENT OF DR. JOHN M. ALBERTINE, CHAIRMAN, PRESIDENT'S COMMISSION ON AVIATION SAFETY

Air transportation has changed dramatically in the past decade. Airline deregulation dismantled the economic regulations that had shaped the industry since the 1920's and replaced them with free market forces. Increased competition lowered fares, expanded service, and brought air travel to millions of Americans who had not previously been able to afford to fly. Last year in scheduled domestic service alone, an average of 13 people boarded an airplane every second of every minute of every hour of every single day of the year. Before deregulation, that number was only eight.

Along with deregulation's benefits has come increasing concern that perhaps, air transportation is less safe than before. Perhaps, the "margin of safety" has eroded. Perhaps, the airlines are cutting corners on maintenance. Perhaps, the air traffic control system cannot handle the high volumes of traffic in the aftermath of the PATCO strike. Perhaps, the long lines of planes waiting to take off and land are an indication that there is something wrong somewhere. Perhaps, the FAA is not equipped to keep the skies safe in a deregulated environment.

The President's Commission on Aviation Safety was created by Congress to examine these questions and to seek ways to improve aviation safety. We began our work last June and since then we have held public hearings and traveled around the country extensively talking to hundreds of aviation experts and visiting dozens of facilities.

We began our work with no preconceived assumptions, no intention of defending special interests, and no advocacy for jurisdictional claims. Our deliberations have been marked by frank and open exchanges of views in an atmosphere of cooperation and mutual respect. I want to commend each member of the Commission—John Byington, Joe Kalt, Mike Levine, Russ Meyer, John Robson, and Tom Wathen—for his hard work and important contributions to our report. I also want to commend the staff and the consultants for their untiring efforts. These are complicated issues and our task has not been easy. Aviation safety is, after all, an issue about which reasonable and well-intentioned people with the same goals can have honest differences of opinion. However, no one involved in this effort, even for a moment, has lost sight of our overriding goal of improving aviation safety. As a result, I'm pleased to announce that every single one of the President's Commission on Aviation Safety's conclusions and recommendations has the unanimous support of all seven commissioners.

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After months of study, hearings, meetings, and staff analysis, the President's Commission on Aviation Safety concludes that the Nation's air transportation system is safe—for now. However, that safety is being maintained to an increasing extent through delays and through what I can only characterize as "heroic" efforts of air traffic controllers, airways facilities technicians, safety inspectors, and other FAA personnel.

A recent poll conducted by the Atlanta Journal-Constitution found that two-thirds of the Nation's commercial pilots believe airline deregulation has made flying more dangerous. We have examined the record and found that, to the contrary, the industry's safety record following deregulation has been far better than before. We do not need to give back deregulation's benefits to enjoy safe air travel. However, deregulation has brought rapid growth and change in the industry that has made the FAA's job much more difficult. The challenges to maintaining aviation safety are greater than ever before. If we are to maintain a safe system today and improve its safety in the future, change will have to be made, and they have to be made quickly. There are serious problems to be solved.

Our report contains 15 recommendations for change that we believe are needed to make the Nation's aviation system more safe. I am submitting volume I of our report for the record. Volume I contains the final report and recommendations of the Aviation Safety Commission. Today in my remarks, I will focus on only four of these recommendations: Increased safety inspections, tighter regulations for commuter airlines, mode C transponders for general aviation aircraft, and creating an independent Federal aviation authority.

SAFETY INSPECTIONS

Safe airline travel depends on the airlines' maintenance programs and on oversight and surveillance by FAA safety inspectors.

The FAA currently relies on scheduled inspections on each airline's operations and maintenance functions by a handful of inspectors assigned to specialize in a particular airline. From time to time, the FAA has conducted in-depth inspections, where a team of as many as 30 inspectors examine a carrier's operations and maintenance in great detail for as much as a month of intense study.

These in-depth inspections detect different sorts of problems than the on-going inspections by inspectors permanently assigned to the carrier. Outside inspectors provide a "fresh set of eyes" and the potential complacency of the inspector work force is lessened in an environment of periodic outside inspections. The in-depth inspections have consistently uncovered problems that had been missed by the on-going inspection program at the local office, or for which the local office had not taken corrective action. While recent FAA Administrators have supported in-depth inspections on a year to year basis, the FAA has not yet committed to a permanent in-depth inspection program.

Both the regular inspections and the in-depth inspections are pre-announced to the airlines. On those rare occasions when FAA has conducted unannounced inspections, far more violations and unsafe practices were observed on these inspections than when prior notice was given.

We recommend that the FAA institute an expanded safety inspection program that includes many more safety inspectors, a permanent program of national periodic in-depth inspections, and surprise inspections as needed to keep day-to-day operations in conformance with safety regulations. We are recommending a comprehensive audit program of the airlines maintenance and operations programs that focuses on the systems the carriers have in place to ensure safe operations and maintenance. Such a program requires a balance of all three types of inspections—regular, in-depth, and surprise—rather than a reliance on just one type of inspection.

These changes to the inspection program are critical to maintaining safety, but in a deregulated environment they are not enough. The airlines' ability to expand and adjust their operations to the market is one of the major factors in deregulation's benefit to travelers. However, rapid change through growth, contraction, new ownership, merger, and so forth, can make it difficult to keep tight control of operations and maintenance. In view of the stresses these changes may produce, we further recommend that the enlarged inspection program give priority—perhaps in the form of special in-depth inspections—to examining carriers undergoing major change.

Critics of these recommendations may charge that such an enlarged program will be too expensive and that in-depth and surprise inspections could easily turn into "witch hunts" in which minor problems are blown out of proportion. We believe the added cost is not too high a price to pay for increased safety and we are confident

that the professionalism of the FAA safety inspectors will keep these activities properly focused.

COMMUTER AIRLINE SAFETY

The commuter airline industry is the backbone of airline service to small communities. Commuter safety has been a concern for some time and the commuter industry as a whole has experienced considerable improvements in safety since the FAA tightened commuter safety standards in 1978. Moreover, some commuter carriers operate extremely safe operations—every bit as safe as large jet carriers. However, some segments of the commuter industry are not as safe as they could be and as a result, commuter air travel, on the whole, remains more risky than jet air travel.

One apparent reason why some commuter carriers operate more safely is that many of the aircraft these carriers fly seat 30 or more passengers and must meet the higher performance standards of air transport category aircraft and use operating procedures much more in line with those of large jet carriers. We believe further improvements in safety might be achieved by tightening regulations for the types of aircraft and the operating procedures commuters must use.

We believe that air travelers going to and from small communities should not face higher risks than those traveling between large cities. We therefore recommend that the FAA move toward uniformity of equipment and operating practice standards for scheduled passenger service, whether it be provided in large jet or small commuter aircraft. Safety regulation should reduce and eventually eliminate differences in operating and aircraft standards, moving toward the standard of regulations for air transport category aircraft.

Some may argue that small aircraft meeting these standards do not exist and these tightened standards would put some commuter airlines out of business with a resulting loss of service to small communities. We believe that with a phase-in period, aircraft with fewer seats can be developed to meet air transport category aircraft standards without substantially higher costs.

GENERAL AVIATION

The public concern about general aviation aircraft stems mostly from the perceived risk to commercial airliners of midair collision with general aviation aircraft. While such risks have been quite small in the past, we all recall the tragic accident in 1986 when an AeroMexico DC-9 collided with a four-seat Piper Archer over Cerritos, California.

General aviation aircraft figure prominently in near midair collisions. For example, during the period 1985 through 1987, there were over 1,000 near midair collisions involving an air carrier reported to the FAA of which over 70 percent involved a general aviation aircraft. Moreover, reports of near midair collisions between air carriers and general aviation aircraft more than doubled between 1985 and 1987. In the Atlanta Journal-Constitution survey I mentioned earlier, half the commercial pilots surveyed said they had been involved in a near midair collision.

To prevent two aircraft from colliding, two things must happen in the air traffic control system: First, the controller must know where both aircraft are, including their altitude, and second, the controller must be in communication with at least one of the aircraft so that the appropriate instructions to change altitude or direction can be given.

Aircraft operated by the airlines are all equipped with the so-called mode C transponders that report the altitude to the controller and jet carriers and commuters are all in constant contact with controllers. Some general aviation aircraft, however, are not equipped with, or do not use, mode C transponders so that controllers cannot know their altitude for sure. Without mode C, a controller cannot tell the difference between a general aviation aircraft that poses a collision threat to another aircraft and one that is several thousand feet above or below and thus poses no threat. It's as if the controller is forced to wear blinders.

The President's Commission on Aviation Safety has concluded that safety could be improved while, at the same time, reducing air traffic controller work load during busy periods, if altitude information were available to a controller for all aircraft appearing on the controller's radar screen.

Therefore, the President's Commission on Aviation Safety recommends that the FAA should designate around all large, medium, and small hubs, buffer zones marked by clearly identifiable geographic or navigational landmarks and whose vertical boundaries begin at the ground and extend to the highest altitude used by aviation—in other words, from the ground to Mars. The area for the buffer zones must be at least as large as that covered on the radar scopes in the terminal area

radar control centers. Our goal is to let the controllers take off the blinders. If the aircraft appears on the controllers' screens, the controllers shoud know the altitude of that aircraft immediately. Any aircraft that enters a buffer zone must have an operating mode C transponder.

For this recommendation to work, no aircraft or user should be exempt from the buffer zone regulations and mode C transponders should be inspected annually. This recommendation does not require that more aircraft be brought under positive air traffic control. Rather, the recommendation is intended to provide more information to the controllers to make it easier for them to keep aircraft apart.

FEDERAL AVIATION AUTHORITY

The first three recommendations I've discussed are directed at specific problems, as are most of the other recommendations in our report. There is, however, a more fundamental underlying problem with aviation safety in the U.S. We have concluded that the present safety regulatory structure is simply inadequate to deal with future growth and technological change.

The aviation system reaches every corner of our country, yet the FAA's personnel system does not provide cost-of-living pay differentials to allow FAA to move controllers, technicians, or safety inspectors to where they are most needed. Thus, facilities in high cost-of-living areas are often severely understaffed while other facilities have all the help they need. Moreover, for some technical specialties, FAA salaries are not competitive with the private sector. What makes it worse is that we are facing severe hiring needs. In the centers we visited, about 20 percent of our airways facilities technicians—the dedicated professionals who maintain our air traffic control hardware—are eligible for retirement today and could be gone tomorrow.

The FAA operates in a technologically complex environment, yet as Jim Burnley said in a speech to the National Press Club in February , "* * * if every step in the [procurement] process is carried out perfectly, * * * high-tech systems may be technological relics by the time they are actually installed." One result of this procurement system is that the FAA uses communications equipment in its air traffic control centers that is so old that the insulation on the wires is too brittle to allow it to be moved.

Even if you could find piecemeal solutions to these personnel and procurement problems, the FAA would still face severe problems. The Federal budget process has grown so contentious and drawn out in recent years that the FAA faces nearly perpetual uncertainty about the resources available to it. Budget by "continuing resolution" is no way to run an agency with a mission as critical as the FAA's.

Frequent turnover in the Office of the Administrator is another serious problem. Many people talk about the short terms of some Administrators, but even the longest term we've had for an FAA Administrator is nearly three years shorter than the term of the St. Lawrence Seaway Administrator.

When an Administrator is appointed, he faces a potentially difficult conflict. The Administrator is responsible for operating the air traffic control system and also for setting the standards to which it must adhere. In essence we force the Administrator to be his own regulator. It's a testimony to the integrity of the men who have held the job that we have not yet seen safety degraded by this conflict, but a system in which such conflict is inherent is cause for serious concern.

We can no longer tolerate these problems. Now is the time to equip the regulatory system to accommodate changes in the numbers and kinds of aircraft, to take advantage of new technology in aircraft design and manufacture, to respond to heightened sensitivity on the part of the public to aviation safety, and to act on the potentially worthwhile safety improvements that have been languishing in the backwater of a bureaucratic swamp of diffused authority and accountability. In short, now is the time for decisive action by Congress and the executive branch.

We believe that the Federal Government must continue to play the central role in ensuring safe operation of the U.S. aviation system. We believe that the regulatory process must remain governmental in character and should not be taken out of the Federal Government or removed from public accountability. While the system is safe for now, the present governmental structure is not working effectively enough to ensure safety in the future. Therefore, we agree unanimously that a major structural overhaul is essential.

Specifically, the President's Commission on Aviation Safety recommends that FAA be transferred from the Department of Transportation and be established as an independent Federal Aviation Authority. The Authority would be managed by an Administrator who is appointed by the President and confirmed by the Senate for a term of seven years.

The Authority would have a Director of Aviation safety—in effect a "Safety Czar"—whose sole responsibility would be to ensure the safety of the system. This Safety Czar would also be appointed by the President and confirmed by the Senate for a term of seven years. The Administrator would promulgate regulations with full notice and hearings, as at present. The Safety Czar would participate in this process. However, the "Safety Czar" has the authority to disapprove regulations promulgated by the Administrator if they are felt to be unwarranted. The "Safety Czar" also has the authority to initiate rulemaking, again with full notice and hearings, if he or she feels the Administrator is not acting fast enough on an issue.

If there is a disagreement between the Administrator and the "Safety Czar", the Safety Czar's decisions are appealable to a Safety Committee composed of the Administrator, the "Safety Czar", the Secretary of Transportation, the Secretary of Defense and a public member appointed by the President and confirmed by the Senate for a term of four years.

The Federal Aviation Authority would be user funded with user fees set by a Board of Governors consisting of the five-member Safety Committee plus four other public members selected with input from user groups to ensure that both the operations and user fee structure balance the needs of the aviation system. User fees would be set, of course, only after full public hearings with input from various Government agencies. The Authority would also be free to tailor its personnel and procurement systems to the unique needs of aviation safety.

This proposal for a Federal Aviation Authority addresses the FAA's current problems of, to use the words of Secretary of Transportation Jim Burnley, "rigid personnel rules," "abstruse procurement rules," and "uncertainties of the Federal appropriations process." This proposal alleviates these problems, as well as others, in a way that provides for more rather than less accountability to the public interest.

With the Safety Czar, the Administrator is not the sole initiator of safety regulations or enforcement actions. The Safety Czar's sole responsibility is ensuring system safety. The Safety Czar is also held accountable through the appeals process to the Safety Committee. This arrangement holds a single person accountable for the safety of the system while still providing the potential for collegial judgment to overturn that person's actions if they are ill-advised. At the same time this arrangement avoids any potential problems of day-to-day action faced by collegial regulatory bodies because the Safety Committee serves solely an appellate function, and is expected to be called upon only in unusual circumstances.

NTSB Chairman Jim Burnett has testified that, "* * * DOT has, on occasion, provided the pressure needed to get significant Safety Board recommendations implemented—recommendations that, based on FAA resistance, would be languishing still without the Secretary's interference."

Under the Federal Aviation Authority proposal, the potential benefits of having the Secretary of Transportation expedite FAA action are retained. The Secretary of Transportation, or other members of the Board of Governors, can urge the Safety Czar to disapprove an unwise action by the Administrator or to take action in the face of unwise inaction by the Administrator.

Safety should further be enhanced by having the Safety Czar serve a "watchdog" function for ensuring that air traffic control operations are safe. Having an independently appointed official with no operational responsibility should ensure that no compromises with safety are made to accommodate other program or budgetary goals. The potential conflict for the Administrator in the current system is removed. Some argue the conflict could also be removed by separating air traffic control from regulation. We considered such an option, but we are not inclined to gamble in sorting out conflicting assertions about whether these functions can be separated without endangering safety nor can we endorse the proposition that air traffic control can be privatized.

In closing, let me emphasize that our overriding goal has been to develop recommendations to enhance safety now and to ensure a safe air transportation system in the future. We hope our work will contribute to a bipartisan agreement to ensure a safe air transportation system into the 21st century and we stand ready to help in any way we can. The problems we have found during our work are serious and the solutions we have proposed are viable. If we have ruffled some feathers with our recommendations, we make no apologies for there can be no substitute for the public safety.

Senator FORD. I am going to take the three former Administrators of the FAA next, and I hope Ms. Page will understand. We need to have these three people next. So if Mr. Halaby, Admiral

Engen, and Chairman Helms would come forward, we will get to your testimony immediately.

Good morning, gentlemen. It seems like I have seen you all before in this, and we are getting close now to putting it all together, with your advice and counsel, and the Commission and other input.

And as you know, I announced earlier we now have 40 Senators, and before the day will be over I hope we will have 50. We are moving in the direction of real support now that the Commission has come out and agreed with most of us, I think.

We are on the verge, and so I look forward to your testimony this morning.

And we will go in order: Mr. Halaby, Admiral Engen, and Chairman Helms. Mr. Halaby.

STATEMENT OF NAJEEB HALABY, DULLES ACCESS RAPID TRANSIT, INC.

Mr. HALABY. Thank you, Mr. Chairman.

I too am speaking as an individual with about a half century of experience in this game, and not as a spokesman for anyone but myself today.

Never before in history have so many people been so concerned about safety, and so many individuals and groups doing something about it. Not a day passes without a conference or a seminar or an active group working on the problem, because it is of great concern to all Americans, because three out of four of us are now flying.

Tomorrow I am going to fly down to Williamsburg for a Flight Safety Foundation meeting, as a Governor of the Foundation Devoting 2 days solely to air safety. I am taking a grandchild and a wife, and as soon as I get airborne I feel will safer on the airways than on the highways.

So the system is working, and what we do here and what we say here should be devoted to making it work better.

Now, in the 1950s there was a Commission called the Harding Commission, appointed by President Eisenhower, and it examined all of the issues that this very fine Albertine Commission has been examining. And I must say, Albertine and his colleagues have been dedicated, serious, responsible, and very thoughtful. This voluminous report is going to be most helpful in considering air safety.

In that Commission, the principal issue was organization and management, just as it is in S. 1600. And that Eisenhower Commission looked at the CAA down in the basement of the Department of Commerce and found it under a very aggressive, very partisan Secretary of Commerce.

I will never forget his asking me: Mr. Halaby, if you were the CAA Administrator and two men came to you for a job in the Washington National tower, and one of them was a Republican and one of them was a Democrat, you would take the Republican, would you not?

And I said: Mr. Secretary, I would not care. I would not know. It would be unlawful for him to put on his application his party connection.

So the politicization of the CAA was one of the reasons it was taken out and made independent.

Now, coming to this report, it has some excellent thoughts and language, and I think you ought to borrow some of that and add it to S. 1600. But as an experienced, old but not too bold, member of this community, I think you ought to go ahead with your bill using portions of this report.

I think there has been in this report sort of a view that government by overseers is better than government by responsible, knowledgeable administrators. Now, certainly in our recent trends in self-government "we the people shall govern" this United States we have added more and more redundancies and less and less directly accountable political executives.

And that is part of our gross problem, and not just in this area. So I think we need less overseers and more line commanding, responsible, directly accountable people dealing with these issues of safety and security.

Now, my own experience, 4½ years as President Kennedy and President Johnson's Administrator under an independent agency, was that we could get things done. We could balance out these conflicting forces, and we could separate the special interests from the general public interest.

There were a lot of overseers then—the White House, the Bureau of the Budget, four committees of Congress—I think there are now seven overseeing the Administrator—the press, and finally the courts.

It is not lack of oversight. It is lack of defined, clear, direct responsibility and the resources to carry it out.

Their thoughts on how to give the Administrator more flexible personnel and procurement rules are excellent, and they ought to be adopted.

How on earth can you continue the airways and airports trust fund and then add a user, I think they call it, a user-funded system, which sounds like the Postal Service, I do not know. I do not see how you do those two concurrently.

Our proposal, as you know, is that you assign to the FAA the aviation tax revenues in the Airport and Airways Trust Fund plus some public benefit money out of the general fund, and let the Administrator move ahead and get the system modernized.

I still think after reading this report that that is the best way to go. Air safety is not some sort of separate funtion to be presided over by a czar. It is a system of safety. The rules are part of it. But this is not a case of criminal action. This is a case of making rules to secure collaborative action. There is no way that a controller can fly an airplane. (Some of them think they do.) Until we have collison avoidance systems, there is no way that a pilot can surely and safely from other aircraft separate when he is in the clouds. The two work together.

The rules are to seek standards of conduct on both parts. They are not criminal laws.

And of course, when a young lawyer comes into this picture he says: Let us pass some more rules; that will make things safe. That is nonsense. Its direct command and control and discipline by FAA and the aviation community that assure safeairways.

What will make things safe is to get those parties—the pilots and the controllers—working together with a system of modern equipment. Mode C is very helpful, but Mode C will not assure safe separation. It is just another part of the system that is most helpful to the controller.

Collision avoidance system will be very, very helpful, because the pilot will be able to verify that the controller's separation is adequate, is in fact separation.

So we are talking about a system of safety, not some function from mars that seems to be identifiable as separate from everything else and then administered by somebody else. It just does not in my judgment, in my experience, hold together.

We are talking about a system of safety, and you ought to have it under an individual accountable to the President and the Congress and the press and the courts to get in my judgment the best solution.

Now, their proposal is elegant, it is sophisticated. It borrows from a lot of other agencies, some of which have worked well and some of which have not worked so well. But look at the job and say, what kind of a job would this be as Administrator?

First, I have got nine members of my board to which I am accountable. Four of them are almost specifically said to be representing the special interests, and so I have four masters that are by design in a State of more or less tension or conflict.

And the others are fellow government officials, and one of them is the chief executive of safety, as though there was some separate institution out here called safety. It is part of the whole system for which the Administrator is made responsible.

And I do not know how you have two chief executives in one good, going organization. You can have lunch together and you can be chosen because you are compatible at lunch, but you can be in direct conflict. And that is not redundancy; that can be paralysis.

And after that, there is an appeal to a committee. Suppose I found that the reversers on a DC–8 needed to be corrected tomorrow. As administrator I would issue an emergency airworthiness directive.

But under this system, I suppose I would have to go through a lunch with the Director of Aviation safety, then if we disagreed, an appeal to a five-member portion of the nine-man committee, before I could issue it. I am sure they did not intend that, so you would have to have some emergency authority to proceed.

I do not think that is the way to correct the kind of problems we now have and may get into.

The question of a fixed term is important in my judgment. I had the job more than twice as long as the average. We do not know whether that was because I was a survivor or eager or just there. But at about the fourth year I understood what I was doing rather more precisely than when I came in.

How can you give a 7-year term and then have the man serve at the pleasure of the President? I do not see how you do that, unless you say the President may remove him for a series of specific causes, such as criminal activity or gross negligence and so on. And so they must intend something like that.

Nine-member board is a pretty big board to get responsive action. I would think maybe five would be enough if you are going to have it.

I do not know how the trust fund worked under this scheme. And so I have a number of questions, as you can tell. It could be made to work.

If offered the job, would I take it? No.

Senator FORD. You closed that off abruptly.

Admiral Engen.

STATEMENT OF DONALD ENGEN, FORMER ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION

Mr. ENGEN. Thank you, Mr. Chairman. It is a pleasure to be here before you again to discuss the FAA and the appropriate role for that one agency that is directly responsible for safety in our aviation system.

In the interests of time, I have a prepared statement which I would like to submit for the record and just make a few brief comments, Mr. Chairman.

Senator FORD. That will be fine, Admiral. Your full statement will be included in the record as if given.

Mr. ENGEN. Thank you, sir.

The time has arrived to rejuvenate our FAA. The agency is being unfairly maligned by many who lack an understanding of the real situation at the FAA and at the DOT. The FAA is an agency whose people are enormously dedicated to its safety mission and to the public welfare, an agency needed by industry to allow that industry to fulfill its potential; an agency that sets aviation safety standards, operates the air traffic system, maintains the infrastructure for the system and ensures compliance with the rules and regulations of the air.

The safety of our aviation system truly depends on the FAA, and there is no other agency like it. One very important point I would make is that the FAA desperately needs the tools to fix the problems that it faces. Those tools are not available now, and until they are available, those problems will continue.

There is, of course, a need for oversight, and there is a need for redress when less than perfect decisions are made. But oversight does not mean day-to-day interference, second guessing and micromanagement. As imperfect as the agency might seem at times, for the past 50 years it has made possible the finest aviation system in the world, and it is run by proud and very dedicated people.

Mr. Chairman, I commend you and your cosponsors of S. 1600 for your wise and thoughtful consideration of the appropriate organizational structure of the Federal Aviation Administration and its placement inside our national government. I have only had a few hours to read the report of the President's Commission on Aviation Safety, and I listened to Chairman Albertine just a few minutes ago. Chairman Albertine and his fellow members are to be congratulated on the way they went about their deliberations, and certainly on completing the report on time.

I agree that the FAA should be a separate agency, that there should be a national instead of a regional certification program,

that there should be refinements of current inspection programs, much as they propose, that the process of rulemaking should be streamlined and restructured, that there should be emphasis on airport capacity enhancement, as they say, and that there is need to use operations research to solve FAA problems and enhance its operations.

I do not agree that there should be a buffer zone around all hubs because this would make useless some 50 to 100 general aviation airports that are in being right now. I do not understand how you can enforce imaginary lines in the sky more aggressively than is being done today, particularly with the tools at hand, with today's technology, or how a Director of Aviation Safety with authority that exceeds that of the Administrator, can be in the best interests of safety.

I look forward to your deliberations on this.

The important point though, to me, is that the Aviation Safety Commission Report is objective and seems to fit with the intent and the substance of S. 1600. And I think that is very good news.

I am deeply concerned over some specific comments concerning the FAA in recent testimony given before this committee by the Secretary of Transportation. While the focus of today's hearing is indeed organization, the Secretary's statements made at your hearing last month strongly imply an effectiveness of FAA organization and management that does not exist except as a result of the organizational interface with the DOT.

The OST staff concerned with FAA activities is small, and yet they try to provide direct, day-to-day control of a technical agency of some 46,000 people. The result is needless delay composed largely of ceaseless briefings to educate or explain and interminable questions about technical issues. I know that the DOT was created with the purpose of coordinating policy decisions that cut across the various modes of transportation. Unfortunately, little effort is spent on that purpose. Instead, certainly in the case of the FAA, the department spends its time redoing actions and proposed regulations, and too frequently, this slows down the process of accomplishing the goal in a timely manner.

In the interest of saving your valuable time, I have included in my prepared testimony three examples, and I would be pleased to talk about additional examples if you should desire.

Further, I wish to take issue with those who would have the different functions of the FAA spread about in our government in the name of efficiency. Just the opposite would occur. We should place responsibility where it belongs, in the FAA. Otherwise we may wake up one day and wonder what happened to the best aviation system in the world. How did we become a third rate air commerce nation, and who was it that was really responsible for this.

Thank you, Mr. Chairman. That concludes my opening statement.

I would be happy to answer any questions.

[The statement follows:]

STATEMENT OF DONALD D. ENGEN, FORMER ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION

I appreciate the opportunity to be here today to discuss the FAA, and the appropriate role for the one agency directly responsible for civil aviation safety in the United States. Aviation is my life. I have spent 45 years helping to build our aviation system. My last six years have been spent as a Member, National Transportation Safety Board, as Administrator, Federal Aviation Administration and now as President, AOPA Air Safety Foundation—the private foundation most concerned with general aviation safety. In those years in particular I have made and implemented national civil aviation policy. I have observed the effects that the tugging and pulling of varied interests within the aviation industry and the government, both civil and military, have had on our aviation system.

The time has come to rejuvenate the FAA. The Agency is being unfairly maligned by many who lack an understanding of the real situation at the FAA and the DOT. The FAA is an agency whose people are enormously dedicated to its safety mission and to the public welfare; an agency needed by industry to allow industry to fulfill its potential; an agency that sets aviation safety standards, operates the air traffic system, maintains the infrastructure for the system and ensures compliance with the rules and regulations of the air. There is no other agency like it. Is it flawless? No, it is not. There are issue which must be addressed more completely, more promptly and more efficiently. Mistakes have been made and must be rectified. But, one very important point I would make to you is that the FAA desperately needs the tools to fix these problems. The tools are not immediately available now, and until they are available, problems will continue. There is, of course, a need for oversight and there is need for redress when less than perfect decisions are made, but oversight does not mean day-to-day interference, second guessing, and micro management. As imperfect as the agency might seem at times, it makes possible the finest aviation system in the world and it is run by proud dedicated people. Mr. Chairman, I commend you and your cosponsors of S. 1600 for your wise and thoughtful consideration of the appropriate organizational structure of the Federal Aviation Administration and the appropriate location of it in our national government.

I have had only a few hours to read the report of the Presidents Commission on Aviation Safety. Chairman Albertine and his fellow members are to be congratulated on the way they went about their deliberations and on their completing their report on time. In general, I support their findings, particularly with respect to the need to create again a separate agency in order that our aviation system can be run more efficiently and with a greater sense of urgency. In the interest of time today, I look forward to expressing myself more fully on the report as this hearing progresses. The one major area that I question in the report is the separate and independent safety function. This, in my view will require close examination. There are other less vital issues with which I may not agree, but, I did find the report to be objective and with considerable merit.

I am deeply concerned over some specifics concerning the FAA in the recent testimony given before this committee by the Secretary of Transportation. While the focus of today's hearing is organization, his statements at your previous hearing strongly imply an ineffectiveness of FAA organization and management that does not exist except as a result of the organizational interface with the DOT. In his testimony the Secretary of Transportation made certain statements, which if left unaddressed might be perceived in the future as fact. Some of his statements concerning specific events in the 1984 to 1987 timeframe demonstrate a lack of understanding as to what actually took place.

Hopefully, there will be time at this hearing to explore more fully events of that time frame and more specifically how the organization of the DOT functioned in the examples he gave. In fairness to the Secretary, the great span of control of the DOT prevents the Secretary from knowing or understanding what is actually transpiring in technical modal administrations. The OST Staff concerned with FAA activities is small and they are tasked to provide direct day-to-day control of a technical agency of 46,000 people throughout the world. They begin with little understanding of the technical issues that make up the substance of what the FAA does. The result is needless delay composed largely of ceaseless briefings to educate or explain. I know that the DOT was created with noble intentions. Its purpose was to coordinate policy decisions that cut across the various modes of transportation. To rationalize, if you will, Federal transportation policy so that the modes were well integrated and dollars efficiently spent.

Unfortunately, little effort at DOT is spent on that noble purpose. Instead, the Department spends its time redoing actions taken by the different transportation modes. This is not to say that in this effort they do not make modal actions better—sometimes they do. But not enough better to justify the cost in terms of time and wasted effort.

In the interest of saving your valuable time and to enable others to express themselves, I would cite just three brief examples of past problems in the DOT/FAA organizational relationship. There are many more than can be examined through interviewing OST and FAA Staff members. While I believe problems are a result of the orgainzational set up, the effectiveness of the DOT/FAA relationship is also very much a function of management style of the sitting Secretary. It is my belief that the mission of the FAA is too important for the effectiveness of the agency to be dependent on the appointment of a Secretary with the "right" management style for dealing with the FAA.

It has been said that in its role of enhancing aviation the FAA finds itself at odds with its safety mission and that oversight by DOT or a like organization is thus necessary. That is just not true! Safety is paramount in everyone mind in the FAA today, just as it has been since 1958 and before. At the same time the FAA cannot ignore the economic consequences of its safety regulations. The worlds safest airliner could be created and probably it would be one that would never get off the ground because of weight and complexity. Indeed, it was frequently DOT and OMB who were most adament in making sure our regulations and other actions, such as contracting, fully complied with their view of the requirement of evaluating economic impacts.

The first example I wish to give involved an exchange between FAA—the regulator, and Boeing—the manufacturer. In this case the OST was strangely silent. While a Member of the NTSB I had been the Board Member on scene for the investigation, and also conducted the public hearing on the Canadian Airlines DC 9 cabin fire which culminated at Cincinnati. In that investigation I had indelibily stamped in my mind the need for flexibility for emergency egress from an aircraft on fire on the ground. Boeing had proposed to the FAA Northwest Mountain Region that two of ten emergency exist on the B747 be deleted as being in excess of that required by regulation. The goal was to add more passenger seats for revenue. The FAA Northwest Mountain Region had approved the request unbeknownst to me. When I became aware of this, I reversed the decision as unnecessarily reducing safety through reduction of flexibility for egress. I informed Boeing and wrote every U.S. operator of the B747 a personal letter and advised them of my actions and asked that they not install the kits that would reduce the emergency exits from 10 to 8.

To say the least, this became a contentious issue. In all fairness, I will let Boeing speak for itself in this matter, other than saying that I am certain that Boeing believed its proposed configuration provided an appropriate level of safety. But, it was clear that my reversal of the engineering change approval would cause Boeing financial loss for the engineering and production costs for the change. Boeing felt that 8 exits would permit emergency evacuation in the required 90 seconds. They subsequently demonstrated this. My concern was for the reduced flexibility of the passenger when exits would be impossible to use because of fire or accident-caused structural reasons. We at the FAA felt that to arbitrarily reduce the number of existing emergency exits was not in the overall safety interests of the passenger. Sometimes even one additional exit can mean the difference between life or death. The exits were already in place. We wanted them left there. The FAA refused to let Boeing remove the two exits. During this exchange there were hearings before the House Oversight and Investigations Committee on cabin safety which brought the need for retention of the exits followed by months of efforts on the part of the manufacturer to gain redress. The OST said nothing throughout this process. This was totally an FAA matter and it needed no prodding from anybody.

The point of this example is that there was a every basic difference of views of safety requirements between the FAA and an aircraft manufacturer in this instance. The FAA held firm under great pressure to maintain the high end of the safety requirement, as it should in every case. There was no waffling, no "coziness" between government and industry and, in fact, I do not believe that I ever saw such "coziness" displayed at the FAA. There is no doubt in my mind that the FAA can continue to function as regulator, operator, maintainer, inspector and enforcer of this aviaiton system of ours and do so with authority and understanding. There is also no doubt in my mind that it can do a better job of this if freed from the non-aviation technical posturing and maneuvering at OST to which it has been subject.

In the second example, the Boeing Company came to the FAA and to me personally in the Spring of 1985 to offer its services to study, develop and promulgate a

windshear simulation training procedure program for the entire industry. They proposed that they would be the prime contractor and have as sub-contractors McDonnell Douglas, Lockheed and United Air Lines. This broad industry concensus was impressive. I was immediately taken with the idea because of my knowledge of windshear and the tragic Pan American accident at New Orleans in 1982 as a result of windshear.

Subsequent to Boeing's oral proposal, a formal unsolicitated proposal was submitted. I personally spoke to the Secretary and to the Deputy Secretary supporting the need for and the quality of this non competitive proposal. I felt that there was available nowhere else such a great combination of talent and capability in the world than was represented by the bidders. I further knew that the need to address the vexing safety problem of windshear far overrode the need for a lengthy bidding process that could consume many months, if not years, before a contract could be let. I do not recall exact costs of the program, but they were on the order of $1.3M for a study and delivery of a dynamic simulator training program which would then be given by the FAA to all airlines.

Initially, I found interest in the proposal at the OST and then strong resistance because of staff concerns as to how such a sole-source contract award would be perceived by others. I explained that there were no contractors available with the expertise and quality necessary for this important task other than this major consortium. My view was that we should detect and avoid windshear, and if unable to avoid it, to try to fly as safely as possible through it. This was a pure safety challenge that needed to be addressed immediately. That person responsible for the competitive process on the OST staff had inumerable procedural and contractional questions and reasons why he should question the FAA. Time dragged on. On July 8, 1985 a Delta Airlines airplane crashed at Dallas-Fort Worth because of windshear. I renewed my efforts at OST at the Deputy Secretary and Secretary level to move this training contract. Things seemed to speed up for a short time.

But, the proposed contract on Windshear training moved back and forth between OST and FAA in July, August and September 1985 like a ping pong ball. OST continuously asked procedural questions and questioned the technical need for such a contract. The FAA continued to respond. Six months passed. Finally, in early October approval was granted and I was permitted to aw d the contract.

I would add that Boeing and the subcontractors did a magnificent job of building the windshear training program and delivered it on time within the cost projected. Today every airline can train for windshear avoidance and fly safer because of the efforts of many people in industry and the FAA. But, gaining approval for the program from OST had been a bureaucratic nightmare.

The third example i volves the process of rulemaking. The Secretary of Transportation, with good courtroom showmanship, displayed a chart several feet long before this committee last month. The chart showed what the Secretary said was a gross imbalance of effort yielding procedural delay by the FAA in its rulemaking process. The data for that chart were the result of an FAA self examination of the rulemaking process in order to devise a better way of doing business.

I had become personally concerned about the laborious rulemaking process and its debilitating effect on air safety. We at the FAA were genuinely concerned about the length of time it was taking to create rules. In order to understand how to better promulgate rules, the FAA set about to examine the existing system. A private contractor was brought in to examine the process. Because the emphasis was internal to the FAA, when the portions of the process involving DOT and OMB were charted, multiple functions were included under a small number of organizational boxes. The portions of the process involving the FAA were purposefully catalogued in far greater detail resulting in some 257 individual boxes.

One needs to understand that there are four different paths for rulemaking in the FAA and no rulemaking effort follows more than one path or uses more than a percentage of those boxes. To state, as the Secretary did last month, that 355 FAA offices must clear a rule reinforces that there is a lack of understanding at least at his level as to how the rulemaking process has worked. There certainly is a need for regulatory process reform, as I have said before. But, counting boxes in a misleading fashion and ignoring the existing requirement for continual approval at the Department level of virtually any and all rules, comment periods, extensions of comment periods, and significant petitions for exemption is like trying to determine the size of an elephant while blindfolded. There is a glimmer of improvement, Mr. Chairman. In 1986–87 the FAA had to provide to OST for review 32 individual copies of each rule judged to be controversial by the Secretary, 21 Copies for those judged to be significant, and 7 copies that were judged to be insignificant. Those requirements have recently been reduced to 15 copies for significant rules and 6 for insignificant

rules. I believe that oversight provided through Congress has focused OST attention on its process. That seems to be the only way to achieve improvement these days.

But, again, counting copies of rules can be like counting boxes. There is a need to carefully and objectively examine the process and the incessant passing back and forth between OST and FAA of individual rules under consideration in that process. There were times as Administrator that I viewed this as a maddening shell and pea game effort on the part of some on the OST Staff. Much of this was explained as the Deputy needing additional information. This seemed particularly true where OST viewed a rule as contentious or politically unpalatable despite its validity from an aviation technical viewpoint. One such rule was the Helicopter Noise Rule, another was the Carry-On Baggage Rule and a third is the continuing Primary Aircraft Rule which was first forwarded by the FAA to OST for approval May 14, 1986. It is still under consideration.

Rules for a technical field such as aviation must be timely. Safety is often at issue and additional DOT requirements in the laborious rulemaking process can subvert the goal of safety from a timeliness as well as a technical accuracy standpoint.

FAA rulemaking is very important. We must make sure that the process does provide sufficient review that the rule will be fair, objective and achieve the goals desired. We must ensure that the process is free from hidden agendas, political maneuvering, public posturing and the like. We should not arbitrarily let time alone drive the process; but, again, we must recognize that time is important where lives frequently are at risk. Safety rules should move promptly but not so quickly that the necessary technical evaluation is short-circuited. Delays after the technical evaluation is completed should be very short and should be allowed only where there is a very significant reason for the delay.

Mr. Chairman, there is no doubt in my mind that the FAA can continue to function as regulator, operator, maintainer, inspector and enforcer of this aviation system of ours. The strength of our aviation system lies in a strong FAA. When the DOT was created in 1966, the Congress clearly intended the Administrator of the FAA alone, with the benefit of his aviation technical experience to be the decider of the appropriate level of aviation safety in this country. Indeed, Section 6(C)(1) of the DOT Act specifically limited the scope of appropriate Secretarial activity in aviation matters with the following language:

"Provided, however, that there are hereby transferred to the Federal Aviation Administrator, and it shall be his duty to exercise, the functions, powers, and duties of the Secretary pertaining to aviation safety as set forth in Sections 306, 307, 308, 309, 312, 314, 1101, 1105, 1111, and Titles VI, VII, IX, and XII of the Federal Aviation Act."

I am concerned that the Administrator no longer is being allowed to exercise these functions, powers and duties, and that therefore no one can really be held accountable for what is happening in the aviation safety area. Now is the time to reunite the statutory responsibility for setting the appropriate level of aviation safety with the authority to carry out that responsibility. The creation of the FAA in 1958 was designed to achieve just such a result in order to prevent the safety problems which had occurred because of a prior fragmentation of responsibility and authority. We should look to that historical precedent for guidance as to how to proceed today.

In conclusion, I wish to take issue with those who would have the different functions of the FAA spread about in our government in the name of efficiency. Just the opposite would occur. We should place responsibility where it belongs, at the FAA. Otherwise, we may wake up one day and wonder whatever happened to the best aviation system in the world? How did we become a third rate air commerce nation? And, who was it that was responsible for this?

Thank you, Mr. Chairman. That concludes my prepared remarks. I will be happy to answer any questions you may have.

[The following information was subsequently received for the record:]

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC, May 2, 1988.

Admiral DONALD ENGEN (USN-Ret.),
Alexandria, VA.

DEAR ADMIRAL ENGEN: The enclosed questions relate to your testimony at the April 20 hearing of the Senate Aviation Subcommittee of the Senate Commerce Committee. I would appreciate it if you could respond by May 18.

Thank you very much for your assistance.
Sincerely,

JOHN C. DANFORTH,
U.S. Senator.

Enclosure.

QUESTIONS [1] FOR DONALD D. ENGEN, FORMER ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION

Question 1. Your testimony implies that the Office of the Secretary slowed the award to The Boeing Company of the contract for development of a wind shear simulation training program. Was this program slowed beyond the time frame you indicated to the contractor would be necessary? Did the Office of the Secretary require renegotiation of the contract price in order to reduce the sole source contractor's profit margin to an acceptable level?

Question 2. Other examples have been suggested in which the Office of the Secretary intervened in FAA actions. These include the rulemaking on interior cabin safety, the rulemaking on cockpit voice recorders and flight data recorders, and the inauguration of the NATI program. Were the Secretary's interventions in these instances beneficial to the safety of air travelers?

Senator FORD. Thank you very much, Admiral.
Mr. Helms.

STATEMENT OF J. LYNN HELMS

Mr. HELMS. Thank you, Mr. Chairman, and in the interests of saving you time, sir, I would like to give a few short remarks.

I, too, have not had a chance to read fully the Commission's report. Others have noted that it was a very valuable report. I agree with that. But to me the value of it was that it brought new ideas forth that I had not even thought about, and the way that we arrive at proper solutions is to open up our minds to others' ideas. I found years ago that when I closed my mind to others' ideas in favor of a predetermined decision, I had abdicated my responsibility to future generations of traveling public, and that alone makes it a very meaningful one to me.

When I last appeared before this subcommittee, I indicated support for S. 1600. Now, after the additional events that have occurred, additional knowledge, additional exploration, I am a very fervent supporter of S. 1600. There is no question in my mind you are on the right track. I might have selected 5 years instead of 7 for the Administrators terms, but the point I am making is the committee is on the right track, and I am going to try to cite briefly a couple of items to bring that into focus.

I think, however, that we should keep in mind that when we appraise an institution, which is what collectively the last year and a half has been, an appraisal by all of "the FAA, "how it should be done, how should it be organized, what its inadequacies are, such an appraisal invariably comes down to either one of two areas. Those inside the institution doing the appraisal will know far, far more about the details, what can be done, what the impact is, but it will lack objectivity. Those doing the appraisal from outside will not know the impact of those decisions. They just cannot know the details, but they will give a more objective consideration and appraisal of what is probably right.

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[1] At press time, Aug. 10, 1988, no response had been received.

It is bringing those two together that collectively we are trying to do, and taking a look at what happened, then; that's what we are talking about. In my mind, the single most important item in the relationship between the existing structure, that is, the Secretary of Transportation and an Administrator, and what might be done in the future, and that single most important item is experience on the part of both people, in depth experience, in managing large institutional operations. Not two or three, but thousands of people, and being able to understand how you use a staff to implement policy decisions made at the top but not to prevent action by the general manager below you.

Unfortunately, what we have now is exposure, and the difference between exposure and experience is a person with exposure has a title. That title makes him feel good. The person with experience has gotten his tail in a jam and had to get it out. And what we need to do is to approach this on the basis of experience as opposed to exposure.

There are a number of specific examples, but I want to choose one to point out why S. 1600 is precisely on the right track. We have a tendency to want "instant" now in the United States, and the longest range projections we usually do is a year, maybe 2 years.

But let's back up and take a look at what the mood was 20 years ago when we created the Department of Transportation and what has happened in the ensuing time period in just one brief area. In that period of time the U.S. has essentially become a nonmaritime nation. We have very few ships being built. We have very few registered under the American flag. The maritime area is essentially an abdicated area of international commerce to us. During this same time period, the American railroads gave abdicated some 55,000 miles of track out of 200,000. Roughly 25 percent, then, of the track mileage of the United States railroad capability is now gone. Our highway program peaked in the 1970's in building the new national highway grid, and is now essentially resolved to solving the urban gridlock.

What I am saying is those three have peaked out in the forms of contribution to the nation's transportation, but every single indication we get is aviation is still growing, and every projection we have to the end of the century is it is going to grow more.

Therefore, to the extent that we appraise an institution and we appraise the operation of that institution, how it functions, we must do so with the recognition that the United States is a very dynamic society, and S. 1600 correctly addresses that dynamic element, that is, aviation.

The Chairman of the Commission, however, did use one phrase that causes me a little concern, and I may not quote it exactly correctly, but I wrote it down at the time. He used the phrase "The Secretary of Transportation is responsible for safety." Now, the legislative language of the law specifically says otherwise.

So I think that as the subcommittee reviews this, let's keep in mind that the Congress, in its wisdom, specifically selected safety out and put its arms around that in the way that they assigned that responsibility to the Administrator. And rather than two pairs of eyes as additional oversight noted by the Commission, I felt I

had 535 pairs of eyes of oversight. I have never known this Congress to have any hesitance whatsoever in either their committees or individuals contacting me directly to saying "come over here and explain this," and I always welcomed it.

In summary, I believe that the report is a very valuable one, but the idea of creating a dual-headed system which would go into a board or to a committee of nine people leaves me very cold. I cannot see how it is going to function.

Mr. Halaby mentioned the situation that if he needed to make a decision on the DCB-thrust reversers, what would he do. I was faced in 1981 with a corporation, one of the major carriers, who on their own started to fly extra flights over and above the allocation. You recall during the time after the strike that I had no choice, we had very rigid controls, we had to because of safety.

During that time period, then, within about 48 hours, we found that this particular airline was flying extra flights. I went back to our Region—I do not want to identify the region or otherwise, but I said I want positive verification, and I got it. Within one hour I was on the phone to the chairman of that carrier and I said "you are flying extra flights that are not authorized. I am going to give you 24 hours to get your airplanes back to your home base, and if you do not do it, I will pull your ticket."

He was extremely upset. He said, I couldn't do it. In three hours I got a call from his Washington lawyer, and I said I have told him what I am going to do, and I am going to do it, and I have the authority. He called me back in two hours and said "we will have our airplanes back on our home base tonight."

My point is I have never known an Administrator who did not have safety in his mind above all else; who did not consider that as his prime function; who did not make every decision with the idea that safety is paramount.

I could only close by echoing what my two other compatriots have said. We do not need more boards and committees and others. I happen to think that the legislative process of the appropriations scenario is not too bad. It forces us into an accountability that maybe is strung out. I would like to see some changes in it. I would like to see it such that once a bill leaves authorizations, no place-namings can be put into it so that when it comes out of appropriations in the same year with 25 or 30 additions which have to be taken out of the operating budget, and hence, the FAA has to diminish research on collision avoidance or something else to stay within the budgetary limits, I think that that would be desirable. But we need to strengthen the authority of one person, and in doing so, we then give him the responsibility, and therein we get accountability.

Like Mr. Halaby, under the proposal as outlined by the commission, I would not take the job.

Thank you, Mr. Chairman.

Senator FORD. Well, let me ask one question, Admiral. Would you want it back?

Mr. ENGEN. Given the conditions, I would not take the job.

Senator FORD. Well, we are at least unanimous, or we are beginning to get unanimous judgment here.

Most of the questions that I had have been answered in your opening statements, so therefore I am going to ask Senator Kassebaum if she has any questions.

Senator KASSEBAUM. I have very much appreciated hearing each of your comments because you have all been Administrators, and I think your experience lends a lot of authority and credibility to your analysis of this report and your suggestions as to things that we should do.

Mr. Helms, I was interested particularly in your comment about the authorization and appropriation process. I feel strongly that we could significantly improve how we operate if we could combine the authorizing and appropriating process so that we would have one bill which we take to the floor that already has incorporated in it both the authorization and the appropriation.

And as you mentioned, particularly with our most recent continuing resolution, the appropriations committee has an opportunity to put all sorts of designations into the legislation. This is one way we could reform that process.

I think from your comments, clearly, that you believe that a Safety Czar, as such, does not enhance the agency's ability to carry out its functions with respect to maintaining air safety.

I am reminded, too, of a question I asked earlier concerning the role of the NTSB. It seems to me that while the NTSB has been a watchdog, and even though Dr. Albertine suggested it continue to be an ankle-nipper, that it has done more than that. It has called attention to safety issues and raised questions as to why its suggestions should not be incoporated into the system.

Mr. HELMS. I might make one comment there, Senator Kassebaum.

When we hear these discussions between NTSB and FAA, and they are widely reported, in 1983 I had an exhaustive summary done to see how bad is this. Why is it I am always reading about the NTSB and the FAA disagreeing, that the Chairman of NTSB and the Administrator are like this in the press reports. I am dealing from memory, now, but it is the magnitude that I think is the important thing. As I recall, during the preceding 10 years there had been 1,708 recommendations made by the NTSB. As I recall, 1,555 were accepted and implemented immediately, 120 something were in study, and only 19 had been firmly rejected. I do not think that is too bad, and therefore, I kind of liked the charter of the NTSB. It did not bother me a bit.

Senator KASSEBAUM. If I may, Mr. Chairman, just make one—oh, I am sorry, Admiral Engen.

Mr. ENGEN. May I make just one comment? Having been on the NTSB and believing very firmly in its charter, and respecting that body, I can echo what Mr. Helms has said. I firmly believe that the NTSB was created with a good intent, it is operating well. It does have a telling effect upon the agency, and the agency continues to respond to the FAA in a very positive manner.

The total response in the positive is something like 82 percent, and then about another 12 percent are argued about a little bit, and maybe 4 or 5 percent there is a direct disagreement. But it is a very good system, and I believe in it.

Senator KASSEBAUM. Mr. Chairman, if I might, a question was raised about the tenure, and I do not want to put words in your mouth, but I think as——

Senator FORD. Oh, you always have.

Go ahead.

Senator KASSEBAUM. As we talked about——

Senator FORD. I listen to her.

Senator KASSEBAUM [continuing]. Tenure, I envision, say, the role of the FBI and the Director of the FBI as being for a longer period of time so that politics supposedly can be removed. I think that I would envision somewhat the same tenure for the Administrator of the FAA.

Mr. HALABY. Well, it seems to me that just in these three seasoned faces before you here, you have the professional administrator, just you had professionals in the FBI. The last two have been Federal District Judges, of course, and they have been seasoned and tested in public life dealing with both investigative and judicially related matters. And I think that is what we are all seeking here, that this person that the President nominates and you advise and consent to, be a judicious, professional executive, not a passing political figure, and the question I raised was how you give him a 7-year term but then have him serve at the pleasure of the President. How do you do that is an important question, and it may be that he serves until he is thought by the President to be grossly negligent or malfeasant. But I do not think you can give him a tenure and then take it away without some criterion.

If I could raise an issue that has been omitted in the report, I would like to just for a moment talk about modernizing the system, not its rulemaking or its oversight, but how do you get in place the equipment, the procedures, the training of those who make it work in an expedited fashion? First you need money on a long term basis, and I know you are working toward that in this bill. Second, you need to attract the systems engineers and technical directors, the wisdom from science and technology into this agency. It is not adequately in the FAA now.

Drew Lewis and Lynn Helms tried very, very actively, and I think successfully, to put the system together, but they were not able to draw in those very qualified people, willing to work at these FAA salaries and with this kind of oversight and constant criticism to do the job of putting the system into effect.

In NASA we created a whole agency to do that, and they were remarkably successful in the early years. At the CIA there is a very, of course, much easier, covert research, development and systems engineering process. They can build an airplane in the skunk works. You cannot buy a computer at the FAA in the skunk works.

We have to streamline and modernize that, and I wish you would consider some language in your bill and in its history that says we recognize in this system a need for rapid and comprehensive modernization and the necessity for having a special arrangement such as the Air Force has with the Aerospace Corporation or MITRE, that will expedite this and put in place the collision avoidance systems, the data link to reduce the communications and all the other components that a modern system of air safety requires.

It is just not there. The talent is not there yet. Very good people are trying, but they do not have the kind of talent and power that is needed to modernize.

So that was not covered in this report. It did talk of operations research which is, of course, the prelude to advanced systems engineering.

Senator FORD. Senator McCain.

Senator MCCAIN. Thank you, Mr. Chairman.

I would like to thank the panel again for their important testimony. There are unintended consequences of hearings, but one of them is the opportunity that this subcommittee has had to hear from these witnesses on more than one occasion. Speaking for myself, as one who has been associated with aviation most of my life, it has been very important in helping me understand the issues.

And as a consequence, Mr. Chairman, I have evolved from being initially skeptical about your legislation to being a supporter as well as a believer that this legislation should be enacted into law as soon as possible.

And I would like to make a couple of comments, including one about the NTSB. I think they obviously perform an important role. In fact, on one occasion about a year ago, I thought that they were indeed too alarmist on the issue of aviation safety when the head of the NTSB appeared before this committee and said one sector of the United States airspace had gone critical in terms of safety.

So I think that the NTSB has been much more than an ankle-biter, and that they have done a very important job.

And I was glad to see all three witnesses articulate their opposition to the kind of a two-headed monster which could be created.

But I do not think that comment in any way should denigrate the other very important contributions that this committee has made, just because I happen to take exception to one of their recommendations. The rest is very important. And I appreciate the time and effort that was put in by the Commission.

I think, trying to read the tea leaves here, that one of the reasons why the Commission made the recommendation they did concerning a "safety czar" is because of the concern that all of us have about the relationship between FAA and the industry.

That leads to some skepticism, or perhaps a more appropriate word would be concern, about whether FAA or whether safety is indeed always paramount in the decisions made by the Administrator of the FAA.

And although I do not think this proposal of theirs is acceptable, I wonder if the members of the panel would have any ideas as to how the FAA could be structured so that the American people would have greater confidence that safety is always paramount in the decisions of the Administrator, and that those decisions are not affected by any relationship with any aspect of the airline industry.

Mr. ENGEN. I believe the way to do this is to have the authority and accountability and responsibility in one person, the Administrator. That man is the most intensely aware person of the requirement for safety of anybody in the system.

He should have working for him, directly for him, a safety organization which cuts across all lines of communication and responsi-

bility in the FAA and has an open avenue of communication reporting directly to the Administrator.

The FAA, it is a very open agency. There are no secrets. Everything is done in the open, and this safety person can operate as an Inspector General, speaking clearly, directly to the Administrator. The safety valve is that if the Administrator ignores what the safety person is saying to him, 535 people on the Hill are going to know about it very, very shortly.

I honestly believe in order to have an effective organization the CEO should have clear authority. You do not want to bifurcate command and control. You want to be sure that when you want an answer up here, you will get that one person who is responsible. And that is the way to do it, by having the Administrator responsible for all of the functions.

Mr. HELMS. I agree with that. I do not care what you call him, whether he is an associate administrator, director of safety, or whatever it is, he must report to the Administrator.

But I think we need to go one step further. The present organizational structure by the regions of the FAA was set up during a time period in which we had, I will say, an aviation industry of a given format. Today, however, we have technology to the extent that, with the digital data links and telecommunications, you can have information in the Administrator's office as fast as you can have it in the regional headquarters.

So we should do away with the nine regions. We probably should have three. There are national security reasons why we do not want one and why we would be better off not with just two, but we probably should reduce that to three regions.

The NADIN network, national data information network, which was started years ago and is now on stream with the enhanced version, has an eastern terminus in Atlanta, a western terminus in Salt Lake City, and therefore a "western region, central region, and eastern region," with a safety director reporting to each of those regional directors, now meeting monthly with the headquarters safety people that Don mentioned.

That is the way to bring safety to the attention and inside the FAA, and stop the duplication or the myriad of, I will say, different interpretations. We tried to reduce the number starting in 1981. We combined the northwest region and the Alaskan region, the western region and the Pacific.

We were just on the steps of laying out the New England region and the eastern region, and politics got involved and so it came to a halt. And so it is in that area that this committee could help.

By reducing the number of regions, you will significantly impact the capability of the Administrator–to directly have control over the safety aspects of it.

One final comment. In 1982, I personally directed three surprise inspections of air carriers. Now, those do not happen often, but they do happen. In 1983 I also directed two more.

I think the chairman was right when he said it was not the normal procedure and more are desirable. But my point is this is not something that has gone totally unused.

Senator FORD. Mr. Halaby.

Mr. HALABY. I think you go back to this feeling on the part of some that there is sort of a buddy-buddy system, fly boys together, a club, it is sort of an internecine scratching of backs and so on.

I guess I found it was the reverse, that once you go into that job you become the enemy, not the pal, because you are regulating and you are doing things that cost money, and they even cost jobs.

And it seems to me the safeguards which I think you were referring to, Senator McCain, are first, when you advise and consent to this Administrator determine what his personal interests are and do it rigorously and carefully.

Second, he should have within his agency a General Counsel who is his watchdog, his overseer, if you will, of anything resembling illegality.

Now, I thought at first this Commission was going to recommend an ombudsman, but it turned out to be a czar. Whenever I hear "czar' in Washington, I always cut the height in half, even of a czarina for that matter. I just do not believe we have or should have czars.

Our system does not permit a czardom. And so just by definition, it is an impossibility, an anomaly. But an ombudsman, yes. Have a man in your staff, even if he or she is a special assistant, who says you should not do that, but not just because it looks bad but because it is bad or impractical or unethical.

And I think one of the concerns we all have here is to distinguish between the substance and the appearance, because what is driving us is that over the last few years we have deregulated the industry, caused it to expand explosively in numbers of flights, in numbers of carriers, and at the same time, many are zealously "overseeing" the Administrator and we are constraining the budget by not using the Trust Fund designed to fuel this expansion and increasing the oversight.

You just cannot do all of that at one and the same time. And it is not chewing gum. All of those forces overpressure what is happening in the real life of the agency. So when you deregulate and expand, you should guarantee the agency assured funding, give it the flexibility to meet the demands of growth.

I think a fourth factor, Senator, in this is the practice that the Administrator ought to have periodic press conferences. The press is a major guardian of the public interest. At times it becomes overzealous and even not very accurate. You might have heard of some inaccuracies in the press. The fact is that they are there, they are in touch with all the interests, and those interests will express their views through the press questioning and in all other ways to make a political executive publically accountable.

Ultimately, the courts are the final arbiter of whether there is any coziness.

Senator MCCAIN. Mr. Chairman, I have two more questions. I would like to combine them, with your indulgence.

One concerns the fact that we in 1987 for the first time had an increase in the accident rate. Many expert witnesses trace this back to the commuter airlines and the lack of experience of the air crews on those commuter airlines. And as we see them continue to expand, in the view of many this problem with inexperienced crew members can get worse particularly on the commuter aircraft.

I would appreciate any comments as to how we can more carefully examine that situation.

Second and last question, Mr. Chairman, deals with my favorite subject, and that is slots. You might have noticed that there were a couple of recommendations on this subject in the Commission report.

We all agree that we have to expand airport capacity. I think we all agree that it is not going to happen any time soon, and that even if we devoted all our efforts to this issue it will be some years before the problem will be alleviated. In the meantime, we see more and more airports becoming congested and slot restrictions taking place.

If this continues, in my view we return to de facto regulation. If an airport like St. Louis has 80 percent of the air traffic in and out of it controlled by, comprised by one airline, and there are others across the country that have similar situations, it seems to me that, unless we do something about the slot situation, we are going to for all intents and purposes do away with competition.

One of the recommendations of the Commission—or not recommendations, but considerations, as I believe they described it, was slot auctions and the other was prices set by the operator. In other words, the airport operator itself could set varying prices for a fixed number of slots at specified times.

I would appreciate the panelists' views on both those issues.

Mr. HELMS. I will try to do it as briefly and separately as I can, Senator McCain. Here again, I think we had better take the long term look. Within 10 years, 50 percent of the captains in scheduled airliners are going to retire. Most people, they just have not set down to take a long-term look at it.

During that 10 years, then, the captains and first officers on the regional carriers are going to "fleet up." They are going to go to the big carriers. So the problem is not going to get better in the short term; it is going to get worse.

So in some way then, we have to find a way to motivate more people to go into flying training and build up that experience. However, we do have something, I think, working in our favor. Today, through simulators the pilot can get so much more training and so much better than he could 20 years ago that we can significantly shorten the time period.

So I do not have an answer for you, but I think we had better take a long term look instead of the short term.

As regards slots, I personally am opposed to slot sales, or auctions. I have a fundamental question in my mind as to who owns them. What gives us the right to believe that somebody can sell them?

I happen to believe that the air belongs to the public, and I do not know how the public is going to get benefit. But I think that there is another consideration. We do not have a filled airspace. We have excess capacity in the airspace.

What we have is congestion at a few locations, and this has been brought about, as you have noted, by deregulation in the air carriers. But the air carriers at times have been fickle customers.

In the early sixties there were, I believe, nine flights a day that left Chicago and came to Washington National, with stops at

Dayton, Columbus, and Pittsburgh. But when the jets came along, a lot of those were dropped.

And my point is, had those municipalities engaged in a large-scale expansion of the airport, they would have sat there for a decade or a decade and a half without very much business. Then somebody elected to choose Dayton as a mini-hub.

My point is we are underutilizing the capacity that exists right now. If I am going to leave the east coast and go to California and have to stop, I do not insist that I stop at O'Hare. As a matter of fact, I would rather go somewhere else, so I do not have to change terminals. I do not insist that I stop at St. Louis.

And there is excess capacity now that exists in Memphis, Oklahoma City, Wichita, Cheyenne, Charleston. And every time the air carriers select one of those as a mini-hub, you will find immediately the Regional carriers will draw from the surrounding 200 miles and that becomes a mini-hub.

So I think we need to find a way to encourage the carriers, instead of telling us, provide us more and provide it right now. We need to go back to the carriers and say: You start looking at another way to use that available airspace a little bit more productively, because we are not going to be able to build all these airfields all at once.

There is considerable airspace there yet to be used. We just need to get them out of those 20 major centers.

Mr. ENGEN. I will be very brief. With respect to the accident rate in the commuter industry, it is of concern to everybody, of course, and crew experience is very vital. As the current President of the Air Safety Foundation, I am involved in a great deal of training, and I move throughout the entire United States trying to build that base for our airline pilots of the future, trying to entice people to come into aviation as an avocation, if you will, and as a way of earning their livelihood.

We need to attract more people, and I think the market will accommodate to that. But training is clearly the key, Senator McCain, to our accident rate, and we need to stress that and stress that again.

With respect to slots, I also am opposed to slots as a means of rationing too few assets. It is anti-competitive in my view. It is not a way to improve the system.

I was heartened, that Dr. Albertine did recommend that the FAA look more at enhancing airport capacity. That is the long term means of fixing our slot problem.

Mr. HALABY. I have little to add, Mr. Chairman. I would just refer you to one of the tables on page 9 of the Albertine report, showing the revenue passenger emplanements going up at a rocket trajectory, as well as the number of aircraft departures, in these last few years.

It seems to me that our emphasis ought to be on growth of capacity to meet growth in operations. We have to have some more runways. We have to have some more reliever airports to relieve the major and minor hubs.

We have to utilize this vast many millions of cubic miles of airspace more effectively through a modern system. It is so easy to say very arbitrarily within the radar range of a hub that no one

may enter except with Mode C. It has to be much more discrete and carefully crafted.

It is not gerrymandering, but it is very carefully tailoring the capacity to the demand. And it can be done if you give the Administrator the tools with which to do it.

Lincoln, Nebraska, does not necessarily need to be treated like Washington National. You can crāft the use of the airspace and the use of the runways while increasing that capacity, and do it quite safely.

And that is the problem. That is why you want to give the Administrator the opportunity and the tools to do it, rather than arbitrary nationwide buffer zones.

Senator McCain. Thank you, Mr. Chairman.

Senator Ford. I have just one question, and I need to get this on the record from all three of you. And I think Mr. Halaby said that once he was appointed Administrator, those he regulated began to hate him. The opposition suggests that if we do go to an independēnt FAA, the agency will be overrun by the industry.

Now, would you all answer that question from me, pro or con, however you feel about it? Admiral Engen.

Mr. Engen. Yes, sir. I would take strong exception to those that suggest the FAA would be overrun by industry. Like Mr. Halaby and Mr. Helms, when I assumed the responsibility of Administrator, I took very seriously that charge. That person who would be Administrator of the FAA under S. 1600 I feel would accept responsibility in the same vein that we three have.

You are the Administrator. You are the upholder of what is right. You cannot afford in any way, shape or form to give special treatment to anybody. You must treat all alike, fairly and openly. You must make sure that the system is functioning and that everyone is following the Federal regulations.

Mr. Helms. I would strongly agree, Mr. Chairman, and I think each of us has indicated it. On one occasion a major new airplane was about to be certified. I personally flew the last test flights. I spent two flights of 4½ to 5 hours in it, single engine, the whole works, but out of that I told the contractor, that is, the designer, the static longitudinal stability is just not good enough. We are not going to approve this.

And my point is I think you will find that the administrator, if he does not already have the capability, he will grow into the job. I have never known one yet that became a prisoner of the industry. I am absolutely convinced in my own mind that just would not happen.

Senator Ford. Thank you very much, gentlemen. I have no further questions.

I might say this for the record at this point. I found out a long time ago, when you receive responsibility in the political arena, as long as you kept the door open, you got all kinds of advice, and somebody would think up something else. There comes a time when you have to close the door, and that quiet period arrives and you have to make that decision.

So after the hearing today, it is my desire to take all of the advice we have been getting, take our bill, other suggestions, and lay it out and begin to compare, and begin to slide those recom-

mendations that we have been getting into S. 1600 and then come with a substitute bill that I hope will deal with our concerns and the problems and take us to the future we want to reach. Let's get on with the state of the art.

I try to operate like a business. Well, we cannot put in business practices around here, you know. Sometimes, it makes legislating very difficult. But my intention is to lay out the bill and start working on it, to use your testimony and those who have opposed S. 1600, and try to glean from that as much as I possibly can. Then, along with my colleagues, we will approve it and then submit it.

I want to thank you three gentlemen because you have been very helpful. Mr. Helms said he has gone from his lukewarm position early on to his study and concern and the direction we are trying to go, he has become an enthusiastic supporter of the direction we are going. We may never cross every "t" and dot every "i" just exactly as each of us wants, but the intent and good faith effort will be made.

So I thank you three gentlemen for your efforts today, and look forward to working with you in the future. Your advice and counsel has been a major asset to this Senator.

We will now have Ms. Edith Page, Transportation Project Director of the U.S. Office of Technology Assessment for her testimony.

We thank you for your patience. We do not have a job award to give you this morning, but we might be able to do just that, and we would ask if you would wait just a moment, we have a few people who want to leave or sit down.

All right, Ms. Page, if you would proceed, we look forward to your testimony.

If you would like to, as the other witnesses have done this morning, you may submit your total statement for the record. We would be delighted to have you highlight it, and then we hope that you would answer some questions.

STATEMENT OF EDITH PAGE, TRANSPORTATION PROJECT DIRECTOR, U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT

Ms. PAGE. Thank you, Senator. I would like to do that.

I have a much briefer verbal statement that I would like to make, but the longer statement with the tables and charts I would like to have placed in the record.

Senator FORD. That will be included in the record. If you will pull the microphone just a little closer, lets see if that will work.

Fine, thank you very much. You may proceed.

Ms. PAGE. It is a pleasure to appear before the subcommittee again. It has been a most interesting morning listening to the presentations that have preceded mine.

OTA has just recently completed a report endorsed by this subcommittee entitled "Safe Skies for Tomorrow: Aviation Safety in a Competitive Environment." It will be released in late May, and this morning I will talk a little bit about some of the findings from it.

The $450 million travelers who used commercial air service in 1986 are testimony to the public's trust in the safety of the air

system. That trust is well founded. OTA concluded that the safety system for commercial aviation in this country does work extremely well. However, we have every reason to expect continued growth in commercial aviation, as the other speakers this morning have indicated; and as the number of travelers grows, so does the magnitude of the task facing all public officials responsible for air safety. Congress will want to focus on improvements to this system to ensure that it is adequate to meet increasing demands.

Airlines can and have changed operations and increased or revised schedules, creating record levels of air traffic and inspector and controller workload in recent years. Vigorous federal oversight is vital to ensuring a high level of public safety in times of such upheaval. OTA found that FAA, hard hit by budget cuts and personnel reductions, has fallen behind in both numbers of staff and levels of technical expertise.

OTA identified two areas as key for enhancing air safety. The first is improvements in FAA's systems safety management, through changes in internal organization and additional resources. The second is improvements to the nation's air traffic system to cope with rapidly increasing travel.

OTA's report is neutral on the placement of FAA in the Government structure. However, OTA concluded that the FAA's functions cannot effectively be separated into regulatory and operating components. Moreover, many decisions affecting aviation policy require participation by public officials at all governmental levels ranging from the Congress to local airport authorities, and these cannot be made solely by an organization completely reliant on technical or industry expertise. A great deal of aviation policymaking requires non-technical input.

FAA's dual mandate to promote safety and to encourage and foster the development of air commerce contains an inherent tension in two vital safety functions of FAA, inspections and managing and operating air traffic control. At times, these activities present unavoidable conflicts.

We identified several changes in FAA structure that would address some of these issues, and I will mention them. If Congress wishes safety to be preeminent in FAA's mandate, it may choose to make that explicit and ensure that funding resources are in place to bolster FAA technical competence and systems safety oversight. Over the past decade, FAA's effectiveness has been undercut by government-wide problems of inefficient federal personnel, procurement and budget requirements, by administration policy decisions, some carried out by DOT, and by national budget constraints that are entirely external to FAA activities.

These have all slowed FAA regulatory processes and procurement, eliminated many expert technical personnel who sought more rewarding jobs in industry, and have prevented modernization of equipment. In addition, the agency's organization is extraordinarily decentralized, and rapid turnover in administrators, common in executive branch agencies, has made internal disagreements especially destructive.

On occasion, budget and regulatory priorities have been set for FAA through pressure on Congress or DOT policy officials, and not always with system safety in mind.

FAA's operations and regulatory and oversight processes could improve markedly with strong, consistent leadership by the FAA Administrator. Three changes that Congress may wish to consider to reach this goal include, first, establishment of the safety function as preeminent for the FAA administrator, an allocation of stable, adequate funding resources; second, streamlining the structure of FAA to give the administrator direct control of the farflung organization and permit him to hold subordinates accountable for system safety; finally, the administrator's length of tenure could be increased to a fixed term of up to 5 years. To ensure accountability, the Administrator could be required to develop a rolling five-year agency development plan and report annually on its status.

Airport and air traffic control issues create tension for FAA between ensuring maximum traffic flow and meeting safety and noise standards. Because serious obstacles exist to near term construction or expansion, we may have to live with existing airports. The air traffic system has many individual interdependent components. A change in one affects each of the others. However, the private sector can and does make changes much more rapidly than the public sector, and the single most significant change in airline operations over the past decade has been the almost universal shift to hub and spoke operations.

These operations require tight airline schedules with connecting flights arriving and departing within a short period of time, leading to periods of overload for the busiest airports. Delays occur at some airports even in good weather.

OTA concluded that continued vigorous air traffic growth could outstrip the capabilities of the air traffic system and that present safety levels may not be sustainable without immediate steps to modernize the air traffic control system and to manage traffic flow and demand.

Current DOT methods of encouraging airlines to spread out flights bunched at peak hours consist basically of jawboning and persuasion. FAA badly needs better tools for evaluating capacity. Furthermore, air and ground space management may require imposing surcharges or altering airline schedules and airport landing slots, actions that directly affect airline profits and market share and can spell success or failure for commuter airlines or larger airlines in shaky financial condition.

Such decisions thus pose serious policy questions for Congress and DOT to consider, related to economic equity and access to public facilities. These require careful scrutiny, public debate, and cooperative deliberate decisionmaking backed by sound technical analysis from FAA.

Realistic airline scheduling and a well-staffed and equipped air traffic control system are necessary to handle continued air traffic growth safely and without burdensome delays. I would like to mention one encouraging development right now, Senator. FAA has included plans in its fiscal year 1989 budget request to upgrade computer and radar equipment at many of the TRACONs. These are the radar facilities just outside the main centers. These improvements are top priorities. If those improvements are not funded, congressionally mandated requirements for collision avoidance equipment in commercial aircraft and broadened transponder re-

quirements for general aviation are likely to overburden aging computer and radar equipment in the TRACONs.

The United States has historically been committed to a high degree of safety for air commerce and OTA is pleased to have identified for Congress ways to continue this commitment.

Thank you.

I will be happy to answer your questions.

Senator FORD. You are mighty nice, and I have two or three questions that I would like to ask you.

In your statement, in the last two paragraphs, you say over the past decade, so that is the last 7 or 8, the last 10 years, seven of it under this administration, FAA's effectiveness has been undercut by administration policy decisions carried out by DOT and national budget constraints entirely external to FAA activities.

They have slowed FAA regulatory process and procurement, eliminated many expert technical personnel who choose to seek more rewarding jobs in industry, and prevented modernization of equipment.

Now, that gets into budgeting, I think, and when you have a trust fund that is running a surplus, it is on budget, and that is used to keep the budget deficit down and not being spent. When an amount of money is dedicated, we find the Department of Transportation siphoning off money that should be designated for FAA to other parts of the Department.

Does your report recommend any kind of remedy for that?

Ms. PAGE. The report addresses the budget needs of FAA rather directly. We have pointed out that there is a need for additional inspectors, for more air traffic controllers, and that the trust fund is a resource that is available for those purposes.

In that sense yes, we do address the budget issue, Senator.

Senator FORD. But you do not address it other than to recommend specific increases. You do not say I think this is broken and needs fixing. If you budget a sum of money to a category in FAA, the Department of Transportation treats it as a tradeoff with roads, etc., then you begin to siphon away from air safety, as I see it.

Do you have any kind of recommendation that would keep us from getting into that position?

Ms. PAGE. Those tradeoffs do work both ways, Senator. This year the Secretary of Transportation did siphon off some of the money from mass transit and put it back in the FAA budget, but that does not really address your question directly.

As I stated in my oral testimony, the OTA report is neutral on the subject of separating FAA from DOT or exactly where it should be sited. We identified the issues related to safety that we felt were most important. They are very similar to the items that the Albertine commission identified and that S. 1600 is intended to address as well. There is need for more money to support the system.

Where we did not find a direct implication for safety of activities, we were silent. And I guess perhaps I had best stop there. Last year, the House did take up the issue of taking the trust fund off budget. I am not sure whether the Senate took it up or not. The House made a negative decision at that point, and that was one of the reasons OTA did not address the question.

Senator FORD. We had a sense of the Senate resolution last week that specified the Social Security fund, highway trust fund and airport improvement trust fund be taken off budget.

Of course, then, that created the problem how much money was there and how it would reduce or increase the deficit figure. So being off budget would eliminate the smoke and mirrors we have now and give an opportunity to see the money that was collected that goes into the trust fund for a reason.

Now, let me get down to another statement that you made here: Only an agency with strong leadership and singleness of purpose and responsibility could maintain a steady course under such difficult demands, and at FAA such pressures only magnify internal management and structural shortcomings.

Now, how can you have strong leadership when you cannot make a decision unless it is filtered up and it goes through several desks, and then it comes back and they say no, you cannot do that, and that may take 30, 60, or 90 days to get an answer?

Ms. PAGE. There are many possible refinements in the DOT legislation and the way the mandate for the FAA Administrator is stated in the regulations, that provide an opportunity to give this strong leadership role to the FAA Administrator.

We were trying to lay out alternatives, Senator, for addressing these problems, and I appreciate your question because it does get at some very important issues.

We felt that if the section of the mandate that says the FAA administrator is responsible for the safety of the system were made preeminent by the Congress, and if that authority was allocated specifically to the Administrator without some of the interpretive language that is in the DOT enabling legislation, a strong administrator would be possible. It is that committee report language—and I may have the details of this a little bit wrong. I can give you some more specifics in a written response later.

Senator FORD. That would be fine.

[The following information was subsequently received for the record:]

The section of regulations governing the Transportation Department that is at issue may be found in 49 CFR, section 1655, (3)(c)(1). It reads as follows: "There are hereby transferred to and vested in the Secondary all functions, powers, and duties of the Federal Aviation Agency, and of the Administrator and other officers and offices thereof, including the development and construction of a civil supersonic aircraft Provided however, that there are hereby transferred to the Federal Aviation Administrator, and it shall be his duty to exercise the functions, powers, and duties of the Secretary pertaining to aviation safety . . ."

This is the language that could be altered to vest the FAA Administrator with sole and ultimate responsibility for safety.

Ms. PAGE. It is that report language that is the foundation for the Secretary's, several Secretaries' assumptions of a more completely authoritative role over the administrator. There are ways through legislative action that could enable the Secretary of Transportation to remain responsible for some areas of the total transportation picture and the FAA Administrator to have the sole and ultimate responsibility for air safety, and have them still be in the same agency.

I believe that is true.

Senator FORD. It will be very difficult, I think, but we do have some independent agencies that have fared fairly well, and we have talked about one this morning, the National Transportation Safety Board.

Ms. PAGE. That is right.

Senator FORD. And the chairman is very much opposed to making FAA an independent agency.

Well, I remember when he was a judge in Arkansas, you know, and he was brought up here politically, and now he is beginning to say that he is independent, he operates independently, but he does not see where anybody else should.

So it bothers me some that we cannot have independent agencies except when it might not—well, he is a good soldier. Let's put it that way.

You also mentioned, in your statement, that rapid turnover in administrators, and I think you suggested a fixed term of 5 years?

Ms. PAGE. Up to 5 years, yes, Mr. Chairman.

Senator FORD. Up to 5 years.

And you say that this rapid turnover has made such internal disagreements especially destructive.

You are getting to a fine line where you have to have the—it could not be two brothers that would operate the Department of Transportation and FAA. You would have to have a different type mix because the brothers would be fighting all the time until somebody jumped on them.

It is difficult to conceive an independent agency within a Department. You give the Administrator a long term and say he is responsible, when in fact he has got to report to a higher power.

It is going to be awfully hard to draft legislative language, in my opinion, to leave this agency or any agency in a department and then give them individual power.

Ms. PAGE. It is a very difficult task, Senator. We are addressing very serious issues in your proposed legislation. Thee are many ways to approach making large governmental changes. OTA was asked to look specifically at the changes in the industry and the changes in the federal role that were necessary to maintain that safety. We did focus on those, and we did not specifically address separating FAA from DOT. So that is not an issue I feel able to comment on in tremendous depth.

We did identify those issues that we felt were very important for maintaining a high level of safety. We have highlighted those, and there are many of those that your legislation and that the Aviation Safety Commission does support. We feel those are very important to move ahead with and that if those are accomplished, that is, additional financial support, greater stability, and strong leadership by the administrator, greater levels of technical expertise, analytical tools, if all of these issues are addressed, the placement of FAA within the governmental structure becomes a less important issue for safety.

Senator FORD. It is going to be difficult under all circumstances, and I want to eliminate as much difficulty as possible. I think that may be asking for one that lends itself to a lot of argument.

It reminds me of a lawyer one time. I turned around and said what kind of a decision should we make on this? He said go either way and we will make one hell of a case.

So that is where you would be left in this. I want the case made before we go too far.

I know my friend here needs to ask some questions. Let me just kind of go through here.

You said that without additional steps to modernize the air traffic control system the present levels may not be sustainable, and your report identifies a number of trends, I think, in the aviation industry that indicate there may be a lessening in safety. Has the procurement problem has slowed the FAA down considerably.

Would that be an accurate statement?

Ms. PAGE. Yes. I would say there are a number of areas where it is a particular problem. One is in equipment. Another is in the training for the FAA personnel.

Senator, I would like to make one followup comment to your previous question.

Senator FORD. Go right ahead.

Ms. PAGE. I appreciate greatly your sensitivity to the magnitude and the difficulty of making such a big change in the FAA. I have been reminded many times as I have contemplated this issue of a speech by former Secretary of Labor Dunlop in which he said that the major impacts of any large change in governmental structure are often entirely unforeseen and have consequences that we cannot foretell in any way.

I have kept that very firmly in my mind as I have tried to work through these issues.

Senator FORD. When Abraham Lincoln won his case for the railroads against the barge lines Lincoln's statement after that was "when progress is made, someone gets hurt." They had to find other pursuits.

We have to make progress here. I think ego or turf may be a problem, but our goal is a safer system for the American people.

One final question. Your statement mentions that stable and adequate funding resources are needed to bolster FAA management, technical competence and the system of safety oversight.

Of the alternatives being considered for reforming FAA funding, which do you think would best serve the FAA?

Ms. PAGE. Are you referring to the Safety Commission's suggestion?

Senator EXON. Their suggestion, your suggestion, whatever you see is best.

I think that one administrator, and I believe it is Mr. Helms but I am not sure, said that they believe you ought to use the trust fund and a portion of the general fund as it relates to funding the FAA, and there are other suggestions, too.

Do you have a suggestion for us?

Ms. PAGE. We feel that the trust fund is a very good resource to tap. It is money that has been paid into the system, into the Federal budget for the specific purpose, and it does not seem appropriate that it should languish there unused when there are so many needs that need to be filled.

I think it is also important to continue to use some of the general fund revenue because this is a Federal safety oversight function just as many of the other functions of the Federal Government that are funded out of the general fund.

Senator EXON. Thank you, Ms. Page.

Senator Kassebaum.

Senator KASSEBAUM. I have only a brief question regarding your comment that the FAA badly needs an effective airport and airspace system measurement tool for evaluating system capacity. You go on to suggest that perhaps a surcharge or altering airline schedules may be necessary to help even out the peak times at congested airports.

Have you gone any further in looking at this possible need for a surcharge? This proposal would involve, of course, some major regulations.

Ms. PAGE. Yes, that is correct. We did not look at that specifically because we were looking for areas where safety might have been affected by changes in industry practices, and I have identified hub and spoke operation as certainly the most prominent among the changes that have affected safety.

When you look at a hub like Chicago and realize something like 50 to 60 percent of the passengers that go through that airport do not want to go to Chicago at all, they want to go somewhere else, that is a very heavy impact on a specific location.

I thought Mr. Helms' comments about better utilization of existing system capacity was a very wise one.

Some airport authorities, as you know, Senator, are moving toward surcharges of one kind or another, and those do raise very, very important policy issues.

One of OTA's goals was to alert the Congress to the fact that if we are not to have a sort of patchwork of individual policies set by airports all over the country, which makes it very difficult for interstate commerce and airlines to do business on a national scale, some kind of national policy really needs to address such capacity issues. We have a sort of a de facto policy now of letting the airlines make their own scheduling decisions. It is causing problems.

Senator KASSEBAUM. Have you analyzed the impact of permitting buying and selling of slots?

Ms. PAGE. We did not look at the economics in detail. We looked at the economics of the industry. This is among the issues that we feel need further study.

Many of these issues we felt we were raising needed further study, and capacity and the way the policy is set addressing that really is one of those.

Senator KASSEBAUM. You seem to give a great deal of attention to the commuter airlines in this regard, and indicate that the capacity issue could actually spell success or failure for the commuters.

How do you reach that conclusion?

Ms. PAGE. It was based on information provided to us by the industry. We asked many of them, using the Regional Airline Association as our conduit, to comment on some of the issues that we have raised during the study.

In my last testimony before the full Senate Commerce Committee, I described the plight of one commuter airline in Pennsylvania that has found the congestion at the Philadelphia Airport to be so severe its numbers of flights per day have had to be reduced from 10 to eight. It simply cannot get into the Philadelphia Airport even in good weather because of the airspace congestion.

That airline relies, as do most commuters, on very regular back and forth flights because the distances are so short. That is one example.

Senator KASSEBAUM. May I interject just a moment? Philadelphia is not considered a high density airport.

Ms. PAGE. That is correct. The problems that have occurred at Philadelphia are fallout from the rearrangement of airspace under the East Coast Plan to accommodate delays at New York and Washington. That is a wonderful example of the unexpected consequences of decisions.

Senator KASSEBAUM. Thank you very much.

Senator FORD. Let me follow up on a point or two, Ms. Page.

As I understand it, your study and your report has not been released for public consumption yet; is that correct?

Ms. PAGE. That is correct. The OTA Board has approved it as of this week, and we are moving ahead as quickly as we can with publication.

Senator FORD. Which board has approved it?

Ms. PAGE. The OTA Board.

Senator FORD. You say you are going to release it this week?

Ms. PAGE. No. We are moving ahead as quickly as possible. I believe it will not be released until late May.

We can, however, once the copy is cleaned up, is make copies available to staff members and to the Senate.

Senator FORD. How soon do you think that might be?

Ms. PAGE. It will be——

Senator FORD. Let me tell you why I am asking. As I said earlier, I am going to lay everything out and try to merge the good things and where the suggestions are basically the same take a little bit different, see how they work out and plan a substitute bill for S. 1600.

I would like to have as much of your report as possible, and, of course, I have some of those thoughts in your statement today which I appreciate very much. If I could have a copy of the report, however rough it might be, so that I could begin to work on it, I would like to begin to work on it the first of next week if I could. If I cannot, we will take it whenever we can get it.

Ms. PAGE. We will do our best, Senator.

Senator FORD. You are mighty nice if you could do that, and it would give me the benefit of your study. By your own admission there are some things that you have not looked into. It was more the economics of the airline or the airports as it relates to slots and other things, but you do bring some valuable thought to some of the areas in which we are vitally concerned.

So if you would do that for me, this Senator would be grateful.

With that, unless you have something else to say, we are adjourned.

[The statement follows:]

STATEMENT OF EDITH B. PAGE, PROJECT DIRECTOR, OFFICE OF TECHNOLOGY ASSESSMENT

SAFE SKIES FOR TOMORROW

Good morning, it is a pleasure to appear before the Subcommittee this morning. Very recently, OTA completed work on a report endorsed by this Committee, entitled *Safe Skies for Tomorrow: Aviation Safety in A Competitive Environment.* The report is now being prepared for publication, and we anticipate it will be ready for release sometime in late May.

About 450 million travelers used commercial air service in 1986, and passenger ranks have been swelling by some 10 percent annually. These numbers are testimony to the public's trust in the safety of the system—a trust that is well-founded. OTA concluded that despite intense media scrutiny and public concern about air safety matters, the numerous and interrelated supports forming the safety system for commercial aviation in the United States have been extremely effective. There is every reason to expect continued growth in commercial aviation, as the number of travelers grows, so does the magnitude of the task facing public officials responsible for air safety. Congress will need to focus on improvements to the Federal components of the air safety system to ensure that the system is adequate to meet these increasing demands.

Major passenger aircraft crashes are so infrequent that identifying specific aspects of the safety system in need of strengthening required thorough and wide ranging research. As OTA sought information for this study, FAA was cooperative and generous with its time, and stepped up examination of its procedures so as to make revisions to address shortcomings. Despite the many changes OTA identified that could improve FAA, the agency has fulfilled its mission of maintaining a high level of air safety—even under difficult circumstances.

For this study, OTA took a comprehensive look at the entire commercial air safety system. Research included a review of FAA technical and safety operations and programs and an analysis of Federal safety data. Table 1 shows the fatal accident rate per million departures for this period for both "large" airlines (Part 121) and "small" airlines (Part 135). Although not the subject of this testimony, the data indicate that human error, severe weather, aircraft component failure, and limitations of the air traffic environment are the four major casual factors in commercial aviation accidents (see table 2). Thus support for technologies to improve the prediction, detection, and interpretation of severe weather and for communicating and coordinating this information between air traffic control and the cockpit are funding priorities for Congress to consider. Further discussion of these technologies and human error will be appropriate after publication of the full report.

Another major component of OTA's work was to assess the changes that the industry has undergone since deregulation. Our research showed that although today's airlines pursue individual management philosophies, they have one common characteristic; each has changed its operating practices to control costs, eliminating some of the redundant layers of the old safety system and replacing them with alternatives that must still be evaluated.[1] While "Safety comes first" is the instant response of airline executives when asked the basis for management decisions, this universal answer masks wide variances in airline corporate practices. Moreover, airlines can and have changed operations and increased or revised flight schedules relatively rapidly, creating record levels of air traffic and inspector and controller workload in recent years. As FAA itself has recognized, during times of major industry upheaval, such as the years since airline deregulation in 1978,m vigorous Federal safety management programs and technical and operational oversight are vital to ensuring a high level of public safety. OTA found that FAA, hard hit by budget cuts and personnel reductions, has fallen behind in both numbers of staff and levels of technical expertise.

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[1] Information for the report on changes in the industry was drawn from OTA's primary research, including workshops, site visits, and conversations and correspondence with representatives of industry and the research community. A partial list of these contacts may be found in Appendix A.

TABLE 1.—COMMERCIAL AVIATION ACCIDENT AND FATALITY RATES

Year	Part 121 (scheduled)	Part 121 (nonscheduled)	Part 135[1] (scheduled)	Part 135[2] (nonscheduled)
Fatal accidents per million departures:				
1975–77	0.48	10.6	6.3	11
1978–80	.57	6.5	6.5	13
1981–83	.72	2.6	2.6	13
1984–86	.34	8.0	2.1	11
1987	.43	4.6	4.1	12
1975–87	.51	6.5	4.1	12

[1] Scheduled Part 135 passenger counts estimated by OTA based on Regional Airline Association data.
[2] Nonscheduled Part 135 passenger and departure data estimated by OTA based on National Air Transportation Association and other air taxi data.

Note.—OTA calculations based on National Transportation Safety Board and Federal Aviation Administration data. All 1987 rates based on estimated passager-enplanement data.

Source: Office of Technology Assessment based on National Transportation Safety Board data unless otherwise noted.

TABLE 2.—PART 121 ACCIDENT CAUSES

	Fatal accidents (1975–86)	Fatal accidents (by percent [1])	Total accidents (1982–85)	Total accidents (by percent [1])
Initiating causal factor:				
Pilot	15	43	23	46
Personnel	[2] 5	14	[3] 4	8
Aircraft	9	26	18	36
Weather	3	9	2	4
Miscellaneous	[4] 3	9	[5] 3	6
All causal factors: [6]				
Pilot	20	57	27	54
Personnel	5	14	4	8
Aircraft	12	34	23	46
Weather	9	26	11	22
Miscellaneous	3	9	3	6
Total accidents	35		50	

[1] For all causal factors, numbers do not total 100 percent.
[2] Three accidents involving ATC personnel, one involving maintenance personnel, and one involving the pilot of another aircraft.
[3] Two accidents involving ATC personnel and two involving maintenance personnel.
[4] Two midair collisions, including Aeromexico DC–9/PA 28–181 over Cerritos, CA, on Aug. 31, 1986, and one in-flight collision with a parachutist.
[5] Two collisions with birds and one collision while taxiing.
[6] All causal factors includes up to two significant causes in the sequence of events leading to the accident.

Note.—Accidents involving weather turbulence, sabotage or nonoperational events, such as ramp activities, are not included.

Source: Office of Technology Assessment based on National Transportation Safety Board data.

Today I will discuss two areas that OTA identified as key for enhancing air safety. The first is improvement in FAA's system safety management, which could be accomplished through changes in FAA's internal organization and resources. The second is improvement to the nation's air traffic system to assist in coping with rapidly increasing commercial air travel.

Safety Management

FAA has a dual mandate: "To promote safety of flight . . . in air commerce through standard setting" and to carry out for the Secretary of Transportation his responsibility "to encourage and foster the development of air commerce." [2] While these tasks are not necessarily incompatible, an inherent tension exists between them in two vital safety activities of FAA—inspections and managing and operating air traffic control. In times of massive and rapid change, such as that of the past decade, they can present the agency with unavoidable conflicts.

Over the past decade FAA's effectiveness has been undercut by administration policy decisions carried out by DOT and national budget constraints entirely external to FAA activities. These have slowed FAA regulatory processes and procure-

[2] Public Law 85–726.

ment, eliminated many expert technical personnel who chose to seek more rewarding jobs in industry, and prevented modernization of equipment. Agency training programs, technical and cockpit human factors R&D, and long range comprehensive planning have been particularly inadequate.

Only an agency with strong leadership and singleness of purpose and responsibility could maintain a steady course under such difficult demands, and at FAA, such pressures only magnify internal management and structural shortcomings. The agency's organization is extraordinarily decentralized, making turf battles inevitable among the 22 top managers reporting to the administrator. Rapid turnover in administrators, common in Executive Branch agencies, has made such internal disagreements especially destructive.

For example, although policy nominally originates from FAA headquarters, FAA standards for certification are not uniformly interpreted across regions. OTA finds that while the autonomy of the regions permits allocation of personnel according to regional need, the policy guidance to FAA regions from headquarters is inadequate to ensure agency-wide consistency. Lack of strong top management, inadequate comprehensive planning, and diminished technical expertise have led on occasion to budget and regulatory priorities being set for FAA through pressure on Congress or DOT policy officials by potent and vocal special interest groups. Appropriate consideration of system safety is not always part of this process.

If Congress wishes safety to be preeminent in FAA's mandate, it may wish to make that explicit and ensure that funding resources are in place to bolster FAA technical competence and system safety oversight. Priorities for programs needing strengthening include: enough inspection, air traffic, and electronics personnel to match changes in industry operating patterns; training programs for new members of these forces; near-term improvements to air traffic control, including upgraded computer capability to cope with increased demand, and analytic models and computer programs for managing airport and airspace demand where necessary. In addition, better management of safety data is needed to support long-range system planning.

Because the safety functions of FAA are inextricably interrelated, problems cannot be resolved by reorganizing or adding resources for any single component. OTA concluded that separating agency activities into regulatory and operating (air traffic control) functions would diminish the effectiveness of the entire system. Furthermore, OTA determined that without more emphasis on system safety management at the very top, FAA agency-wide problems that have hampered the organization's capabilities are likely to continue. Internal management improvements are necessary to support long range planning; technical capabilities; internal coordination, especially between R&D activities and ongoing operations; even-handed application of regulations in inspections, enforcement, and certification across regions; and management information systems. Shortcomings in these activities are embedded in the FAA structure and operations and affect air traffic operations, technology development and safety standard program alike. Moreover, FAA organizational problems have exacerbated the impacts on the agency of government-wide problems of inefficient Federal personnel and procurement requirements and national budget constraints and priorities.

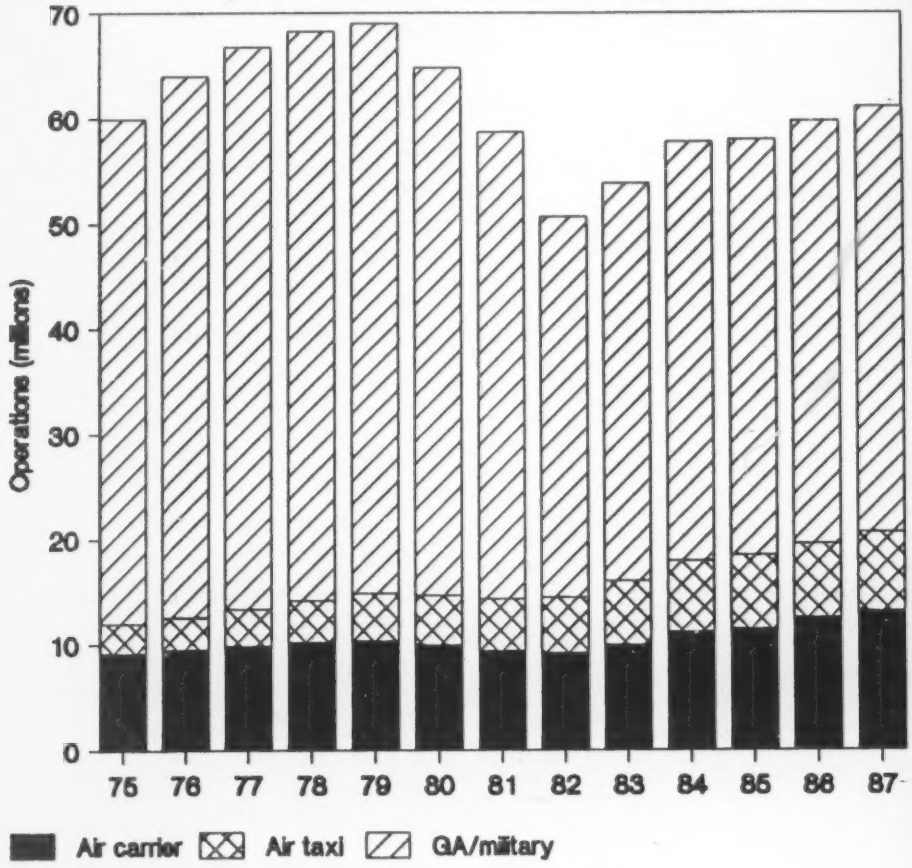
FAA operations and regulatory and oversight processes could improve markedly with the establishment of strong, independent, and consistent leadership by the FAA administrator. OTA identified three changes that Congress may wish to consider to reach this goal. The first includes explicit establishment of the safety function as preeminent for the FAA Administrator and allocating stable, adequate funding resources. The second is streamlining the structure of FAA to give the administrator direct control of the far-flung organization and permit him or her to hold subordinates accountable for system safety. Finally the administrator's length of tenure could be increased to a fixed term of up to 5 years. To ensure accountability, the administrator could be required to develop a rolling 5-year agency development plan and report annually on its status.

System Operating Improvements

Airport and air traffic control issues create tension for FAA between ensuring maximum traffic flow and meeting safety standards and State or local environmental and land use concerns. In its 1988 reauthorization of the Airport Trust Fund, Congress reaffirmed the importance of environmental concerns by increasing funding to airport authorities for land purchases. Such concerns are serious obstacles to near-term airport construction or expansion: we may have to live with existing airports.

Commercial air transportation operations (takeoffs and landings) at U.S. airports with FAA control towers have reached record levels each year since 1984, with commuters and air taxis accounting for a third of those flights.[3] Due to declines in general aviation (GA) activity across the country, total traffic nationwide is still below the peak of 69 million operations reached in 1979 (see figure 1). Although GA and military flights generate a large volume of traffic nationwide, they represent only a small portion of the operations at the largest and busiest airports—less than 6 percent at Chicago O'Hare and Atlanta Hartsfield, for example. Although GA (and some military aircraft) share the facilities, commercial airline operations account for most of the increases in traffic at major airports. (See figure 2.)

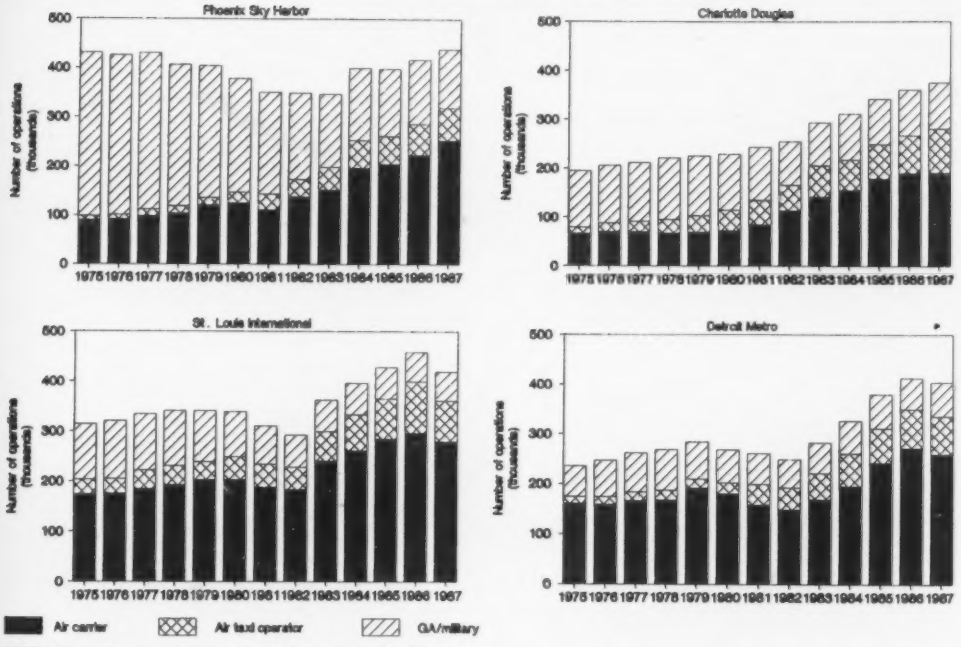
Figure 1 Total Operations at Towered Airports



SOURCE: Office of Technology Assessment based on Federal Aviation Administration data.

[3] Air traffic controllers, who record data on traffic operations, do not differentiate commuters from air taxis or Part 121 commuters from Part 135 commuters. Additionally, since many air taxis are similar to general aviation aircraft, an air taxi operation probably will not be counted as such unless it is so indicated in the flight plan. Therefore, air taxi operations are most likely underestimated by these statistics.

Figure 2
Air Traffic Activity at Selected Hubs



SOURCE: Office of Technology Assessment based on Federal Aviation Administration data, 1975-87.

The air traffic system has many individual, interdependent components, each of which affects the safety and capacity of the overall system. A change in one affects each of the others; however, the private sector can and does make changes much more rapidly than the public sector. The single most significant change in airline operations over the past decade has been the almost universal shift to the hub-and-spoke operations that enable airlines to dominate their most successful markets. To retain connecting passengers, the major airlines have made arrangements with regional and commuter lines that feed passengers from small communities to their hubs to share identification codes on computerized reservations systems—a practice known as code-sharing. Where the performance of the commuter line is less than satisfactory, or where a chance exists that a head to head competitor at the hub may make a more favorable code sharing arrangement, the major line is likely to buy the commuter outright. Of the 50 largest regional airlines that existed as independent entities several years ago, only two now remain unattached to a larger airline.

Hub and spoke operations require tight airline schedules, with numerous connecting flights arriving and departing within a relatively short period of time. This practice leads to periods of intense demand and even overload for the busiest airports and airspace. The increases in air traffic have put strains on industry, airport, and air traffic control equipment and personnel and require them to perform consistently at peak ability—a requirement they are often ill-equipped to meet. Travel delays occur at some airports even in good weather, due to air traffic and airport congestion, equipment malfunction, and occasionally aircraft and ground crew shortages. Plans to build more runways and modernize airports have been stymied by interjurisdictional disputes over noise and land use that are unlikely to be resolved in the near term. Air traffic control system renewal moves at glacial speed, slowed by inadequate system planning, technology development difficulties, and administration and congressional budget decisions. OTA concludes that continued vigorous air traffic growth and increased traffic densities for longer periods of time at more airports could outstrip the capabilities of the traffic system. Present safety levels may not be sustainable without additional interim steps to modernize the air traffic control system and to manage air traffic flow and demand, where necessary.

Current DOT methods of encouraging airlines to spread out flights scheduled at peak hours at busy airports consist basically of jawboning and persuasion—if these are ineffective, the alternatives are massive delays and public uproar. FAA badly needs effective airport and airspace system measurement tools for evaluating system capacity. Air and ground space management may require imposing surcharges or altering airline schedules and airport landing slots at the most congested facilities during peak hours—actions that directly affect airline profits and market share. Decisions about managing demand can spell success or failure for some small commuter airlines or large airlines in precarious financial condition. Such decisions thus pose serious policy questions for Congress and DOT to consider, related to economic equity and access to public facilities. These require careful scrutiny, public debate, and cooperative, deliberate decision making backed by sound technical analysis provided by FAA.

Existing and projected airport and airspace capacity constraints require air traffic equipment improvements, flight path restructuring and well trained operating and support personnel. Both realistic airline scheduling and a fully staffed and adequately equipped air traffic control system are necessary if the system is to handle safely continued growth in air travel without burdensome delays. The new computers in en route centers provide adequate computer capability for those facilities until NAS Plan improvements are in place. However, recent requirements for collision avoidance equipment in commercial aircraft and broadened requirements for altitude encoding transponders in GA aircraft will overburden aging computer and radar equipment in the Terminal Radar Approach Control (TRACON) facilities. Currently, only the New York TRACON equipment is being upgraded to handle increased demand. In its FY 89 budget request, FAA included plans to upgrade computer and radar equipment at other TRACONs that will be most heavily affected by the new requirements. OTA concludes that these improvements are top priorities for Congress to consider for maintaining current safety levels.

Commercial aviation is an essential and rapidly expanding component of our national economy, and the United States has historically been committed to a high degree of safety for air commerce. OTA is pleased to have assisted Congress in identifying changes that can help ensure that Federal programs continue this commitment.

[Whereupon, at 11:55 a.m. the hearing adjourned.]

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